



I-ESA'22

Call for Papers

INTEROPERABILITY FOR ENTERPRISE SYSTEMS AND APPLICATIONS
"ENTERPRISE INTEROPERABILITY THROUGH CONNECTED DIGITAL TWINS"

March 23rd-25th, 2022

VALENCIA (Spain)

Organised by the [Universitat Politècnica de València](#)

on behalf [INTERVAL](#) (Spanish Pole of INTEROP-VLab)

and the [INTEROP-VLab](#) (European Virtual Laboratory for Enterprise Interoperability)



SCOPE

The current environment ecosystems have associated high uncertainty levels due to both endogenous and exogenous variables, which change very dynamically and therefore affect to companies. These organisations welcome tools that help them out not only to analyse and improve their products and processes but also predict their performance. In this sense, Digital Twin technology, using real world data, may be used to replicate such a product/process performance, by integrating IoT, AI and software analytics tools. The appropriate usage of Digital Twins necessarily implies the ability to properly interoperate with other enterprises, as data would come from different sources at both the company level and business partners one. Further, when speaking of connected Digital Twins, the need for deeper study and analysis of the needs and capacities regarding interoperability become even of greater importance. Enterprise Interoperability (EI) is the ability of an organisation to work with other organisations without special effort. The capability to interact and exchange information both internally and with external organisations (partners, suppliers, customers, citizens...) is a key issue in the economic and public sector. It is fundamental in order to produce goods and/or services quickly and at lower cost, while ensuring higher levels of quality, customisation, services and security. Industry's need for EI is one of the key drivers for research into the connected Digital Twins. Such an EI research will analyse and point out the actions that enterprises should carry out in order to assure proper conditions to enhance fully efficient connected Digital Twins.

The industry will find at I-ESA'22 an outstanding opportunity to exchange experience and problems on business interoperability in their daily operations. The I-ESA conferences have been recognized as a tool to lead and generate an extensive research and industrial impact in the field of [Interoperability for Enterprise Systems and Applications](#). I-ESA brings together the world's leading researchers and practitioners in the area of enterprise interoperability, and it is a unique forum for the exchange of visions, ideas, research results and industrial experiences, dealing with a wealth of interoperability research subjects.

TOPICS OF INTEREST

- **Architectures and Frameworks for Enterprise Interoperability**
 - Agent based approaches to interoperability
 - Model Driven and Service Oriented (Enterprise) Architectures
 - Ubiquity, mobility, open architectures and large scale interoperability
- **Artificial Intelligence for Enterprise Interoperability**
 - Automatic schema matching and intelligence
 - Autonomous agents
 - Humanoids robots for Enterprise Interoperability
- **Collaborative Supply Networks for Enterprise Interoperability**
 - Dynamic Supply Chains
 - Interoperable Enterprise Architectures
 - Supply Chain Digital Twin
- **Digital Platforms for Enterprise Interoperability**
 - Digital Manufacturing Platforms
 - Intelligent infrastructure and automated methods for business system integration
 - Open platforms supporting collaborative businesses
- **Digital Twins for Enterprise Interoperability**
 - Digital Ecosystems
 - Digital Twin Model Driven Architectures
 - Digital Twin-Driven Designs
- **Enterprise Interoperability Science-based**
 - Concepts, theories, and principles for solving EI problems
 - Contribution for EI Science-based from neighbouring scientific domains
 - Frameworks for the development of EI Science-based
- **Enterprise Modelling for Enterprise Interoperability**
 - Meta-Modelling and synchronization of models
 - Requirements engineering for interoperable enterprises
 - Service Modelling for Business
- **Industrial Implementation for Enterprise Interoperability**
 - Collaborative Workplaces
 - Enterprise Social Networks
 - Performance and knowledge management
- **Interoperability for Crisis Management (e.g. COVID 19)**
 - Early warning systems
 - Enterprise safety indicators
 - Organizational resilience
- **Interoperability for Industry 4.0**
 - Cognitive computing
 - Interoperability in lean manufacturing
 - Interoperability standards and requirements
- **Ontologies for Enterprise Interoperability**
 - Domain ontologies
 - Ontology driven integration
 - Ontology-Driven Semantic Interoperability
- **Semantics for Enterprise Interoperability**
 - Enterprise applications analysis and semantic elicitation
 - Reasoning methods and tools for model transformation and data reconciliation
 - Semantic Web based approaches
- **Services Innovation for Enterprise Interoperability**
 - Micro-services, negotiation and federated Interoperability
 - Service Science Management and Engineering
 - Utility and Value Added Services for Enterprise Interoperability
- **Standardization to enhance Enterprise Interoperability**
 - Challenges in standardisation and standardisation policies
 - Open Standards
 - Standards Organisations works on Enterprise Interoperability

IMPORTANT DATES

- **Conference:**
 - Full paper submission deadline: **December 13th, 2021**
 - Author notification due: January 15th, 2022
 - Camera-ready copies due: January 31st, 2022
 - Conference: March 23rd – 25th, 2022
- **Workshops:**
 - Workshops proposals: **October 15th, 2021**
 - Acceptance notification due: November 15th, 2021
 - Workshops first draft papers: January 31st, 2022
 - Workshops final papers: April 18th, 2022
 - Workshops: March 23rd – 24th, 2022
- **Doctoral Symposium:**
 - Paper submission deadline: **January 31st, 2022**
 - Author notification due: February 15th, 2022
 - Doctoral Symposium: March 25th, 2022

CONFERENCE

I-ESA'22 Conference welcomes submissions of scientific papers directly connected with the Conference Topics but also industrial papers demonstrating relevant case studies and implementation of EI and DT (Digital Twins).

A package with formatting instructions for full papers (10 pages length) and a MSWord template can be downloaded from <http://i-esa2022.webs.upv.es/index.htm>.

At least three members of the International Programme Committee will review each submission. The ISPC will recommend about the papers acceptations and the Programme Committee Chairs will make final decisions. The accepted papers will be included in the Conference proceedings published by Springer in the book series "Enterprise Interoperability" (see Vol. I, Vol. II, Vol. III, Vol. IV, Vol. V, Vol. VI, Vol. VII, Vol. VIII) at the condition that the paper is presented by one author during the conference.

WORKSHOPS

I-ESA'22 Conference invites proposals for workshops to be held in conjunction with the main conference. The workshop proposal topics are opened to other areas not covered by the main conference topics. Workshops aim to be a forum to discuss advanced research and innovative solutions of EI and DT in areas such as Industry 4.0, e-Government, Innovation support for Networked SMEs, Crisis Management, Transport & Logistics, Digital Platforms. Workshops may also be devoted to EI case studies, solutions for industrial sectors, original and successful implementation, standardization issues or road mapping activity. The presented papers will be published in [CEUR Workshops Proceedings](#) (see the previous edition [here](#)). More information about the call for Workshops at [here](#).

DOCTORAL SYMPOSIUM

The Doctoral Symposium is an opportunity for students involved in the preparation of their PhD in any area of EI to interactively discuss their research issues with senior researchers. More information on the Doctoral Symposium at [I-ESA22 webpage](#).