

## I-ESA 2018 Workshop Proceedings

In today's business world, markets, technologies and ICT stakeholders constantly improve and develop, making it challenging for single organizations to keep up with the competition and to implement the upcoming Digital Transformation. Organizational interoperability will become one key for cooperating enterprises.

The book of the workshop proceedings contains the short papers from 10 workshops organized in the frame of the International Conference on Enterprise Interoperability (I-ESA 2018) held on 2018-03-19/23 at the Fraunhofer IPK Institute in Berlin, together with the proceedings of a Doctoral Symposium.

Most of the presented workshop papers are originating from European or national research projects. One major goal of the workshop is the exchange of knowledge to encourage new findings, an active discussion of issues and the debate of results held between the presenters and the audience. Below you find a summary of selected topics from the I-ESA workshops. The workshop titles can also be found via the weblink below.

1) workshop on Modelling & Simulation to design Advanced Manufacturing System : the workshop focused on PSS developments in academic and industrial domains, particularly with examples from European research projects and discussed methods and tools to support the development of Product Service System (PSS).

2) workshop on Interoperable ICT solutions in dynamic business environments: four major issues have been discussed: (i) how to empower people? (ii) how to enable effective knowledge sharing across multiple users with different work viewpoints? (iii) which analytic methods and techniques are needed? (iv) how to deploy and maintain Interoperable ICT applications

3) workshop on enterprise interoperability methods applied to vertical or horizontal organizational integration: key impact factors are seamless cooperation between enterprise strategy, tactic and operation, flexible Value Networks and implementation of new IT technologies such as Cyber Physical systems and Internet of Things as well as use of IT service provision and Cloud technologies

5) a combined B1/B2 workshop on Big Data: discussed challenges for Smart Manufacturing and research definition efforts of the Big Data Value Association (BDVA). The efforts include data integration and data analysis challenges of Big Data. Another global challenge is the development of suitable reference ontologies to enable semantic information interoperability demonstrated with examples from the domains logistics and construction industry.

6) standardisation workshop: discussions on why Interoperability should be driven by Agile Integration using Message Standards concepts resulted in consideration of the respective needs for standards in development, deployment and configuration of smart services and applications. Using an example of message standards in the manufacturing sector, capability profiles in standards for life-cycle management were addressed. Subsequently, the questions of broad dissemination and use of such message standards was discussed

7) workshop on Virtual Factory Operating System: discussion on an Open Environment for Development of Manufacturing Applications in a novel environment resulted in proposal of an advanced editor for software developers. The proposed editor will provide a set of artifacts and libraries including standard connectors and extension points, debuggers, and tools to optimize the performance of applications. The approach is built on micro-services, and will be orchestrated through common REST (REpresentational State Transfer) web services with special attention on running resources OnPremise versus purely InCloud.

8) Two workshops on requirements of Predictive Maintenance in the frame of Industry 4.0: considered methodologies, tools and Interoperable applications, as well as aspects of people qualification and education.

9) workshop on Interoperability for Crisis Management in Smart Cities: proposed new methods to cope with crisis management in order to increase the resilience of the operation in Smart Cities.

10) Doctoral Symposium: a change in the production process also requires a change in information systems. The proposed a flexible solution concept built on business processes that describe the value adding of an enterprise as well as configuration of the information system in order to obtain the needed information. Two illustrative use cases were presented.

For more information see the I-ESA 2018 Proceedings with the table of contents and the titles of all papers at <http://www.iste.co.uk/book.php?id=1411>