

# **Advances in Intelligent Systems and Computing**

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# Information Systems Architecture and Technology: Proceedings of 37th International Conference on Information Systems Architecture and Technology—ISAT 2016—Part II



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# Preface

This four-volume set of books contains the proceedings of the 37th International Conference on Information Systems Architecture and Technology, or ISAT 2016 for short, held during September 18–20, 2016 in Karpacz, Poland. The conference was organized by the Department of Management Systems and the Department of Computer Science, Wrocław University of Science and Technology, Poland.

The International Conference on Information Systems Architecture and Technology has been organized by the Wrocław University of Science and Technology since 1970s. The purpose of the ISAT conference is to discuss a state of the art of the information systems concepts and applications as well as the architectures and technologies supporting modern information systems. Contemporary organizations seem to be knowledge-based organizations and in connection with that information becomes the most important resource. Knowledge management is the process through which organizations generate value from their intellectual and knowledge-based assets. It is a management philosophy, which combines good practice in purposeful information management with a culture of organizational learning, in order to improve business performance. The computers are able to collect and select the information can make some statistics, and so on, but decisions have to make managers basing on their experience and taking into consideration computer support. An improvement of decision-making process is possible to be assured by analytical process supporting. Applying some analytical techniques, such as computer simulation, expert systems, genetic algorithms, can improve quality of managerial information.

One of the conference's aims is also to consider an impact of the knowledge, information, computing, and the communication managing technologies of the organization functionality scope as well as the enterprise information systems design, implementation and maintenance processes taking into the account various methodological, technological, and technical aspects. It is also devoted to the information systems concepts and applications supporting exchange of goods and services by using different business models and exploiting opportunities offered by Internet-based electronic business and commerce solutions.

ISAT is a forum for specialized disciplinary research, as well as on interdisciplinary studies that aims to present original contributions and to discuss different subjects of today's information systems planning, designing, development, and implementation. The event is addressed to the scientific community, people involved in variety of topics related to information, management, computer and communication systems, and to people involved in the development of business information systems and business computer applications.

This year, we received more than 110 papers from about 10 countries. Each paper was reviewed by at least two members of Program Committee or independent reviewers. Only 86 best papers were selected for oral presentation and publication in the 37th International Conference on Information Systems Architecture and Technology proceedings.

The book is divided into four volumes which splits papers into areas: Managing Complex Planning Environments, Systems Analysis and Modeling, Modeling of financial and Investment decisions, Risk Management, Project Management, Logistics and Market, Artificial Intelligence, Knowledge Based Management, Web Systems, Computer Networks and Distributed Computing, High Performance Computing, Cloud Computing, Multi-agent Systems, Internet of Things, Mobile Systems, Service Oriented Architecture Systems, Knowledge Discovery and Data Mining, Quality of Service, E-Business Systems.

We would like to thank the Program Committee and external reviewers, who were essential for reviewing the papers and ensuring a high standard of the ISAT 2016 Conference and its proceedings. We thank the authors, presenters, and participants of ISAT 2016, and without them the conference would not have taken place. Finally, we thank the organizing team for their efforts during this and previous years which have led to a successful conclusion of the conference.

Wrocław, Poland  
September 2016

Adam Grzech  
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