

## Guest Editorial: Service Modeling

Services are of great importance for economy and society. The synergistic combination of physical and digital services with products and processes is attributed as a critical role in the digital transformation and integration of business and association. At the same time, intelligent services and products are seen as basis for many new compatible and extendable data- and service-based business models. For the realization of innovative digital-, data- and service-driven hybrid service systems the development of methods and tools for service modelling is required in order to address, specify and evaluate fundamental questions of this research field. Innovative and advanced industry-wide and cross-company service models can be found in the fields of electric mobility, cloud computing and mobile healthcare. They allow an increase in productivity and the design of new application systems that are available in appropriate delivery models.

We address this circumstance with the present EMISA Special Issue for the field of service systems and applications. This issue gives an overview of what is state-of-the-art at the moment and presents current research problems, as well as possible solutions and future trends. On the one hand, the articles focus on models for the development and provision of services, and on the other hand on models of information systems, which support the development and/or provision of services. The contributions consider all of the life-cycle phases of services and all “dimensions” of the term “service” that represent a foundation for the development of resource models (structure dimension), process models (process dimension) and product models (outcome dimension). The special issue has an interdisciplinary orientation and combines business economics (e.g., production, service management, marketing), engineering (e.g., construction/design, product development, service en-

gineering), information systems (e.g., modelling, information services) and informatics (e.g., data structures, software engineering).

All articles in this EMISA special issue were handed in by the authors in the course of the workshop “Service Modelling 2014” (DLM 2014, in German: Dienstleistungsmodellierung), examined by the program committee and finally chosen for conference presentation, as well as for publication.<sup>1</sup> The workshop itself took place on March 19, 2014 at the University of Vienna, Austria, in the course of the conference “Modelling 2014”.<sup>2</sup>

Due to the high number of interesting and high quality submissions we applied a two-step acceptance process for the articles. First: Acceptance as a scientific article: Complete scientific articles were published in the German workshop proceedings “Thomas, O.; Nütgens, M. (eds.), Dienstleistungsmodellierung 2014 — Vom Servicemodell zum Anwendungssystem, Wiesbaden, Springer”. Second: Acceptance as a scientific article with an additional recommendation for journal publication. As a result, the five best articles of “Service Modelling 2014” — with an acceptance rate of less than 20% — were selected to be published in an extended form in this special issue of the EMISA journal on service systems and applications. The following is a brief synopsis of the contributions to this special issue:

The paper “Linking Process Models and Service Configuration” by Stephan Klingner and Michael Becker proposes a holistic approach for modelling and configuring services by providing a three-step approach for enriching service description and configuration with business processes.

<sup>1</sup>For more information about the workshop DLM 2014, see <http://www.imwi.uni-osnabrueck.de/dlm2014.htm>.

<sup>2</sup>See <http://www.modellierung2014.org>.

The paper “Modelling and Simulation of Knowledge-Intensive Service Systems with Design Structure Matrices” by Sönke Duckwitz, Andreas Petz, Alexander Nielen and Christopher M. Schlick introduces a modelling and simulation method for planning support of complex, knowledge-intensive service projects. The authors provide a method which considers the specific conditions of the services that are mainly provided in the form of projects.

The paper “Towards Supporting Business Process Compliance Checking with Compliance Pattern Catalogue” by Patrick Delfmann and Michael Hübers presents a catalogue of regulatory patterns to support the compliance review of business processes in the financial sector.

The paper “Recommendations for a general IT Service Catalogue structure” by Volker Nissen, Dominik Jung, Mathias Petsch and Claus-Peter Präg proposes recommendations for a formal description of Information Technology Service Catalogues.

The paper “Designing Customer-Specific Product-Service Systems in B2B-Markets – A Consecutive Framework for Development and Configuration Management” by Alexander Fuchs, Sebastian Bittmann and Deniz Özcan proposes an approach for the development and configuration management of customer-specific Product-Service Systems in the context of Business-to-Business relations.

We wish our readers many exciting moments in discovering the various facets of service systems modelling and gaining new insights.

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