Guest Editorial Preface

Special Issue on Smart Cities in Practice:
Value Sources, Applications and Functionalities

Leonidas Anthopoulos, Business School, TEI of Thessaly, Larissa, Greece

Vishanth Weerakkody, Brunel Business School, Brunel University London, Uxbridge, UK

Marijn Janssen, Faculty of Technology, Policy and Management, Delft University of Technology, Delft, Netherlands

EDITORIAL

Smart city is more than the combination of the words "smart" and "city", meaning that it is more than clever ideas or embedded information systems within the urban space. After a long discussion that has taken place since the late 1990s, scholars and standardization bodies have concluded that smart city concerns *innovation (not necessarily but mainly based on information technology) that enhances urban life in terms of people, governance, economy, mobility, environment and quality of life*. This innovation focuses on various urban challenges that vary from local economic growth to securing urban sustainability against climate change.

Five articles are included in this edition of 2016 volume of International Journal of Electronic Government Research (IJEGR). These articles were selected from the *First International Workshop in Web Applications and Smart Cities (AW4CITY 2015)*, which took place in conjunction with the *24th World Wide Web International Conference (WWW2015)* in Florence, Italy in May 2015. The aim of the *AW4City* workshop was to illustrate the theoretical context, the existing state and current issues and trends with regard to developments for future cities' applications (web-based and Apps). This objective was strengthened and accompanied by innovative and forthcoming developments (i.e., standards, norms and policies for open data and big data) in smart city domain, mainly with regard to the World Wide Web (WWW). In this order, theoretical concepts, empirical evidence and selected case studies from leading scholars and practitioners in the field showing the "big picture" of smart city applications (web-based and Apps) were examined in the workshop.

All the papers were significantly extended and double peer reviewed in an attempt to generate this useful resource of material for researchers, covering significant aspects regarding "Smart Cities" and "Applications". The context of this special issue is relevant to the mission of IJEGR not only because smart cities are areas of practice for government innovation, but also an area of emerging research for the academic community.

The opening paper in this special issue by Marion Gottschalk and Mathias Uslar discusses how use case methodology can be utilized by city planes and understand smart city functionalities. We use this paper to begin with the recognition of the size and complexity of smart city application development against which, the authors synthesize use case methodology, integration profiles, and architecture models in their attempt to simplify the recognition of smart city functionalities. This

analysis can resolve the structure and interconnections between different smart city components like smart energy, smart government and even ambient assisted living.

The second paper introduced in the special issue examines an approach for using Dialogical Logic to develop enhanced applications for smart cities. It is written by Erich Ortner, Marco Mevius, Peter Wiedmann and Florian Kurz and questions the ability of governments to interact with their citizens for decision making purposes in smart cities. Their novel approach to utilise Dialogic Logic process patterns to design applications for decision support in smart cities is tested on a budgeting scenario and useful outcomes are demonstrated.

Giuseppe Del Fiore, Luca Mainetti, Vincenzo Mighali, Luigi Patrono from the University of Salento and Stefano Alletto, Rita Cucchiara and Giuseppe Serra from the University of Modena and Reggio Emilia author the third paper of the special issue entitled "A Location-aware Architecture for an IoT-based Smart Museum". This work deals with *people* and *living* smart city dimensions and more specifically with *smart tourism services* and it aims to investigate whether these services can enhance customer experience within a museum. In this respect, the authors utilise their experiences from the MUST museum in Lecce, Italy, where a prototype smart phone application has been implemented and applied that supports user navigation with image recognition features and enhances visitor's experience. Moreover, the authors concluded to a multi-layer architecture for such an application, which respects the existence of Internet-of-Things (IoT) in the hard infrastructure layer of a smart city and contribute to corresponding standardisation processes.

The fourth paper is written by Leonidas Anthopoulos, Panos Fitsilis and Christos Ziozias, all from the University of Applied Sciences (TEI) of Thessaly in Greece, and explores smart city business models. More specifically, the authors question the source of smart city value and perform a literature review to locate it, accompanied by the processes that can transform this value to smart city owners' profit and city's gainings. This exploration returns several business models that are being utilised in smart cities, as well as various innovative business models. Moreover, the authors engage smart city experts from many cities across the globe into a multi-criteria decision making process and conclude on the suggested "optimal" business model from the owner perspective. For those who are familiar with the literature on smart city and business models more generally these findings provide us with rich explanatory material for the smart city value sources and corresponding experts' insights that is so much a part of this field.

This collection closes with the work of Leonidas Anthopoulos, from the University of Applied Sciences (TEI) of Thessaly in Greece, Marijn Janssen from the University of Technology of Delft in The Netherlands and Vishanth Weerakoddy from the Brunel Business School in the UK, which deals with smart city modelling and comparison. More specifically, the authors question the smart city potential and investigate existing modelling techniques that could perform smart city benchmarking. In this respect, the authors perform a literature review regarding smart city modelling and smart city benchmarking and conclude to a summary and a comparison of existing smart city models and to their capacity to perform smart city measurement. This paper contributes to smart city modelling in its own right but, more than that, it provides useful general outcomes of this special issue.

We hope the readers of the International Journal of Electronic Government Research will benefit from the contents of this special issue and hope to develop further special issues of IJEGR on this important theme.

Leonidas Anthopoulos
Marijn Janssen
Guest Editors
Vishanth Weerakkody
Editor-in-Chief
IJEGR