

Preface to the Proceedings of the 8th Smart Data Smart Cities (SDSC) conference – ISPRS Annals

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Commission IV, WG IV/9

KEY WORDS: Preface, ISPRS Annals, SDSC 2024

Generally speaking a Smart City is a city overlaid by many digital layers, which is used a) for the governance of the city b) to help with digital services the citizens, and c) to contribute to a sustainable development. A Smart City uses and implements intelligent technology, hardware, software and procedures to enhance life quality in urban environments, bringing together people, procedures, activities and data from disparate sources such as sensors, demographics, 2D topographic and 3D mapping, building Information Models and many more. It (will) integrate in the near future the urban aerial mobility and new ideas for the urban mobility in general e.g. autonomous cars. Increasingly, Smart Cities use multiple data and information in a variety of ways, to address key challenges related to transportation, communications, air quality, noise, environment, well-being of the citizens, decision making relating to education and health and urban planning, as well as in relation to initiatives such as startups and fostering economic growth and employment within the city. As more data become available, and as technology brings new products, the challenges of storing, managing and integrating such data are also multiplied. The new element in the concept of smart city could be the fact that it can be smart thanks to applications developed outside of the city structure (financial, geographical, administrative).

The first Urban Data Management Symposium (UDMS) was held in 1971 in Bonn, Germany. SDSC was established in 2016 as the successor of the UDMS. The 7th international conference on Smart Data and Smart Cities in Australia, Melbourne made the choice of hosting the 8th international conference on Smart Data and Smart Cities (SDSC) in Athens, Greece for the first time.

This volume consists of 30 papers, selected from 100 submissions, on the basis of double-blind review, with each submission being assigned to a minimum of three reviewers. These papers present novel research concerning the use of spatial information and communication

technologies in Smart Cities, addressing different aspects of Smart Data and Smart Citizens. The selected papers tackle different aspects of Smart Cities: 3D; Citizen Engagement; transport, sustainable mobility; dashboards and web GIS; citizen engagement and participation; sensors; urban decision making.

Prominent researchers from around the world gather at the Smart Data and Smart Cities (SDSC) Conference to exchange ideas on new techniques and applications with professionals in city analytics, GIS, digital twins, Aerial mobility, smart cities, and data science. SDSC offers a platform for talking about how to plan and design our future cities using data and technology. The SDSC 2024 papers fall under eight themes:

Theme 1: Smart Data

- Sensor network databases
- On-the-fly data mining
- Geographic and urban knowledge modelling and engine
- Urban data analytics and big data
- Big databases and data management (noSQL)
- Open urban platforms
- Cyber-Security
- Privacy and urban resilience
- Data privacy and integrity
- Future Internet 5G/6G

Theme 2: Smart People

- Volunteered information
- Citizen engagement
- Participation and empowerment
- Privacy and data security challenges in smart cities
- Usability of Smart Systems
- Co-Design

Theme 3: Smart Cities

- Urban Digital Twins
- 3D modelling of cities
- Internet of Things
- Urban social networks
- Monitoring systems
- Smart Homes
- Smart Energy
- Urban knowledge engineering
- New style of urban decision-making systems
- Disaster management systems
- Industry 4.0

Theme 4: Smart Digital Planning Tools

- Metaverse
- Scenario planning
- Urban modelling and simulation
- Urban AI and ML
- Urban computational design
- Digital platforms and portals.
- SaaS (Service as a Software) Artificial Intelligence
- Plantech & Proptech
- Visualisation
- Dashboards

Theme 5: Smart Governance

- Smart city policy
- Smart urban governance
- Rules as code
- Standards and regulations
- Smart engagement - Co-design, co-production
- Living labs methods and case studies
- Participatory geographical information systems
- People as sensors

Theme 6: Smart Green

- Net-zero emission cities
- COP26 Goals
- Sustainable and Green Computing
- Environment-friendly system
- Green computing
- Ecosystems
- Green buildings

Theme 7: Smart Construction

- Smart construction equipment & machinery
- Automated building systems
- Construction site planning, monitoring and control
- Smart building solutions
- Digital technologies used in health and safety management

Theme 8: Smart Urban Mobility

- Smart Aerial Mobility
- Smart Transportation
- Intelligent Transport Systems

- Electric Vertical Take-Off and Landing aircrafts (eVTOL)
- Voloports

The conference received 100 papers including 40 full papers and 60 extended abstracts. We sincerely thank the members of the conference organizing committee and the worldwide academics (mentioned below) who reviewed these papers. We genuinely appreciate all the authors and reviewers for their contributions.

We are very thankful

to the **General Co-Chairs** Dimos N. Pantazis, Volker Coors and Ioannis Voyiatzis

and also to the

Program Committee Co-Chairs Nikitas Karanikolas, Claire Ellul and Michael Vassilakopoulos for organizing the conference in Athens

The editors are grateful

to the members of the Scientific Committee for their time and valuable comments, which contributed to the high quality of the papers.

Reviews were contributed by: Alias Abdul-Rahman, Giorgio Agugiaro, Theodoros Anagnostopoulos, Leonidas Anthopoulos, Ken Arroyo Ohori, John Barton, Martina Baucic, Filip Biljecki, Roland Billen, Lars Bodum, Pawel Boguslawski, Maria Antonia Brovelli, Matteo Caglioni, Olga Cavoura, Ofelia Cervantes, Eliseo Clementini, Volker Coors, Aspasia Daskalopulu, Youness Dehbi, Mahmoud Reza Delavar, Abdoulaye Abou Diakité, José-Paulo Duarte de Almeida, Matt Duckham, Claire Ellul, Cidália C. Fonte, Gilles Gesquiere, Tarun Ghawana, Jorge Gil, Vasileios Gkamas, Didier Grimaldi, Eric Guilbert, Petra Helmholz, Stephen Hirtle, Ivana Ivanova, Nikitas Karanikolas, Margarita Kokla, Thomas Kolbe, Shawn Laffan, Ridda Laouar, Robert Laurini, Ki-Joune Li, Wei Li, Liu Liu, Christina Mickrenska-Cherneva, Marco Minghini, Mir Mostafavi, Vassilios Moussas, Eftihia Nathanail, Gerhard Navratil, Stephan Nebiker, Robert Olszewski, Dimos Pantazis, Panagiotis Papantoniou, Dev Paudyal, Dionysia Perperidou, Chris Pettit, Alenka Poplin, Ivana Racetin, Abbas Rajabifard, Maria Rigou, Massimo Rumor, Soheil Sabri, Camilo Leon Sanchez, Monika Sester, Davood Shojaei, Maria Sinou, Christos Skourlas, Yongze Song, Antonia Spanò, Riza Yosia Sunindijo, Mohammad Taleai, Shengjun Tang, Wei Tu, Genoveva Vargas-Solar, Michael Vassilakopoulos, Anh Vu Vo, Ioannis Voyiatzis, Zhiyong Wang, Stephan Winter, Jinjin Yan, Christos Yiakoumettis, Yang Yue, Sisi Zlatanova, Jian Zuo.

We are also grateful to the **local organizing committee** at the University of West Attica (UNIWA), without whose work this conference would not have been possible:

Dionysia-Georgia Perperidou, Panagiotis Papantoniou, Vassilios Moussas, Anna-Christina Daverona

Last but not least we would like to thank the **UDMS Board** for the useful guidance and help that is consisted of the following:

Massimo Rumour, Robert Laurini, Sisi Zlatanova, Claire Ellul, Volker Coors, Giorgio Agugiaro, Dimos N. Pantazis