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# Towards a Smart Sustainable City Roadmap

## Identifying Competency Gaps

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### ABSTRACT

This workshop of the CAP4CITY (Erasmus+ Strengthening Governance Capacity for Smart Sustainable Cities) project is to promote and stimulate the discussion and networking in the area of Digital Government. Smart Sustainable Cities and related concepts of Digital, Intelligent and Smart Cities represent a progression of how cities around the world apply digital technology to serve their populations, pursue sustainable socio-economic development, and transform themselves in the process, and require strong capacity for public governance in the digital world. In order to identify the gaps concerning missing knowledge and training needs in this area we propose to validate a Smart Sustainable Cities roadmap through a scenario-building approach.

### CCS CONCEPTS

- Applied computing → Computers in other domains → Computing in government → E-government

### KEYWORDS

Smart Cities, Sustainable Cities, Governance capacity, Latin America

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### 1 Introduction

Smart Sustainable Cities (SSC) represent a progression of how cities apply digital technologies to serve their populations, pursue sustainable socio-economic development, and transform themselves. The urban development that leads SSC requires a growing number of competencies to work together in order to plan, design, implement and manage the ongoing transformations of the city, enabled by technological innovation. Considering the great attention the concept of SSC has reached, our project aims at integrating it into various university courses using new teaching and learning tools, as well as developing new curricula in all levels of education process. Given the increasing number of competencies needed and its interdisciplinary characteristic, the curricula for SSC will be implemented in areas such as ICT, Business Administration, Computer Science, Engineering, Architecture and Urbanism, Urban Planning, Political Science, among others, using a collaborative and international network of selected academic institutions in Latin America and Europe. The main outputs of the project include the development, evaluation and implementation of new courses and programmes on SSC to reach students, policy makers, public managers and other members of the city administration, professionals, managers and

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entrepreneurs, as well as university faculty that will be trained to apply the developed ICT-based tools to their classes. Besides academic curricula and specialization programmes, the project will provide an e-learning platform filled with a Massive Online Open Course (MOOC) on SSC. The main impacts of the project are to improve the quality of learning and teaching tools, methodologies and pedagogical approaches in the Latin America region, increase the employability and competitiveness of the students, and for the faculty members to increase the quality of their classes by using new learning and teaching tools and new content, as well as promoting life-long learning.

## 1.1 Objectives

The objectives of the workshop are as follows:

- Present and discuss the status of the Strengthening Governance Capacity for Smart Sustainable Cities project by project representatives
- Define a common understanding of the Smart Sustainable Cities area
- Collectively work to define a research framework to support efforts to conduct comparative studies on Smart Sustainable Cities
- Identify the gaps concerning missing knowledge on Smart Sustainable Cities
- Identify the elements to be part of a MOOC on SSC

## 1.2 Format of the workshop

The workshop will be divided into three steps: 1) Workshop opening and project overview (20 min); 2) lightning talks (40 min); and 3) group activity (2 hours).

The opening is planned in the first 20 minutes and will include the welcome and brief introductions of participants, followed by an overview of the CAP4CITY project by Gabriela Viale Pereira (Project Coordinator) and preliminary results.

The second part consists of lightning talks on current smart city related research from project partners. The planned talks are as follows:

- Enabling Smart Sustainable Cities through research and education by Tomasz Janowski
- Current state-of-art on Smart Sustainable Cities in Latin America by Elsa Estevez
- Roadmap for Smart Sustainable Cities in Latin America by Gabriela Viale Pereira and Robert Krimmer
- Elements for developing a MOOC on Smart Sustainable Cities by Marijn Janssen

The third step of the workshop is a group activity following a scenario-building approach for roadmapping the Smart Sustainable Cities area: gaps, main challenges and research directions. The activity will be based on the data collected during the first stage of the CAP4CITY project on the status of the smart sustainable cities research, practice and education worldwide. The participants of the activity will be asked to validate and construct scenarios of possible future developments in the field.

## 2 Presenter Biographies

**Dr. Gabriela Viale Pereira** is Associate Researcher at the Department for E-Governance and Administration at Danube University Krems and Visiting Post-doc at EAESP/FGV. She is Coordinator of the Strengthening Governance Capacity for Smart Sustainable Cities project for the Latin America region under the Erasmus+ Programme.

**Prof. Dr. Elsa Estevez** is Independent Researcher at the Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) in Argentina, Full Professor at Universidad Nacional de La Plata, and Assistant Professor at Universidad Nacional del Sur, Argentina. She is also Associate Editor of Government Information Quarterly.

**Prof. Dr. Dr. Robert Krimmer** is Full Professor of e-Governance and Head of DigiGovLab at Ragnar Nurkse Department of Innovation and Governance at TalTech Tallinn University of Technology, Estonia. He coordinates the Once-Only Principle Large-Scale Pilot (TOOP) developing a data exchange layer for Europe involving 21 European Countries. He is also involved in the Strengthening Governance Capacity for Smart Sustainable Cities project.

**Prof. dr. Marijn Janssen** is a full Professor in ICT & Governance and chair of the Information and Communication Technology (ICT) research group of the Technology, Policy and Management Faculty of Delft University of Technology. He was nominated in 2018 by Apolitical as one of the 100 most influential people in the Digital Government <https://apolitical.co/lists/digital-government-world100>. More information: [www.tbm.tudelft.nl/marijn](http://www.tbm.tudelft.nl/marijn).

**Prof. Tomasz Janowski** is the Head of the Department of Applied Informatics in Management at the Faculty of Economics and Management, Gdańsk University of Technology, Poland; Invited Professor at Danube University Krems, Austria; and Co-Editor-in-Chief of Government Information Quarterly.

## 3 ACKNOWLEDGMENTS

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