

Article

Transport Systems and Mobility for Smart Cities

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Abstract: Nowadays, cities appear to be the best place to live, attracting more and more people and activities. However, not only does this movement represent a threat to the environment but also provides challenges and opportunities for everyone, e.g., people, companies, organizations, and governments. To provide a good urban quality of life, the efficiency of all assets, buildings, infrastructures, and all systems, as well as taking care of the natural environment, must be addressed and achieved. This paper will, therefore, present the available literature on the subject to discuss the present context, the main challenges, as well as the concept of smart cities, with future cities relying on the mobility and evolution of transport systems for smart, sustainable, resilient, and inclusive mobility. As a result of the research, it is possible to infer that an integrated smart mobility approach can support the efficiency of all transport networks for everyone, today and tomorrow, while faced with the threat of climate change and the challenges of citizens.

Keywords: smart cities; buildings; transportation; citizens; digital information; governance; mobility



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1. Introduction

In our modern history, cities have become the best place to live, attracting more and more people and activities, where new knowledge, creativity, and innovation have been the fuel of our world. Given their characteristics, cities have always been the ideal places for creativity and innovation, as is obvious in these three examples: (a) Etruscan engineers built the Cloaca Maxima in Rome around 600 B.C., which is a fascinating public sewage system that required planning, technique, and vision; (b) Vitruvius, in his architecture treatise *De Architectura* (I.B.C.), provided details, among many other guiding principles, for building projects and how the special purposes of different rooms require different exposures; (c) Renaissance Florence was a place of extraordinary creativity in the arts and architecture.

Additionally, global populations have been continually on a sharp rise, with 70% of the world's population predicted to be living in cities by 2050 [1], making cities critical to achieving a sustainable future for the world. However, this movement represents a threat to the environment, with challenges and opportunities for everyone, including people, companies, organisations, and governments, with the final objective of offering a better quality of life for everyone. This is why the United Nations has established its 2030 Agenda for Sustainable Development [2] with 17 Sustainable Development Goals, including SDG 11: Sustainable Cities and Communities: Making cities and human settlements inclusive, safe, resilient, and sustainable. As in the past, the evolution of cities will need to be supported by new knowledge and technological evolution. However, when looking at the present situation with great global inequalities, the focus on “smart cities” must integrate the equilibrium between nature and the physical environment, and the education of citizens, promoting more inclusive, tolerant, and open cities.

This is translated into the concept of the “smart city”, which has been evolving and attempts to provide answers to a more comprehensive vision such as that of the United Nations 2030 Agenda, in particular, Sustainable Development Goal SGD 11 [2]. Starting