

Dr Panos Fitsilis

Professor at University of Applied Sciences of Thessaly, School of Business and Economics, Greece

Standards for Smart and Sustainable Cities

Abstract

The concept of Smart Sustainable Cities (SSC) is used to discuss the utilization of ICT technologies for everyday urban life and how these ICT infrastructures are merged with traditional infrastructures. Generally speaking an SSC should have four basic characteristics: a) being open by offering services to all citizens without discrimination and at the same time engaging them, but as well governments, private stakeholders, and other parties, in the designing and planning process for their city, b) being smart by enabling application of innovative solutions, use of new technologies and smart infrastructures, c) offering security and quality of service for citizens, visitors, businesses and investors, d) being resilience by having the ability to recover to a satisfactory level of operation following a disruptive event, natural disaster or crisis and e) being supportive and able to coexist with peri-urban ecosystems (e.g. aquatic and terrestrial).

Further, IoT devices and urban sensors will provide access to real-time spatial, economic and environmental information about each city, enabling city management to take better informed decisions. This will help to create shared knowledge for city governance and it will provide the necessary platform for simulations that will enable experimentation on future designs for economic, social and environmental development.

Obviously, the integration of ICT technologies will have a direct impact on future cities since it will influence greatly the cities' environment, interaction with and between the citizens, urban governance and the urban economy. The impact is expected to be significant in various aspects of our daily life, for example by improving the energy efficiency, operation and transparency of the urban infrastructure, efficiency use of water resources, efficient management of waste and on other services.

Transforming a city to SSC is a long and gradual process. Therefore, there is a need to guide urban stakeholders through this process, by elaborating on a series of steps. This implies that a number of key features for SSC together with defined Key Performance Indicators (KPIs) to monitor SSC progress, have to be defined. The use of KPIs will enable cities not only to measure the performance of city services and the quality of life over time, but to learn from each other by allowing comparison across a wide range of performance metrics; to share good practices and to allow for comparisons, international statistics and the assessment of cities.

Clearly, the role of international and national standards is quite important for implementing this vision. The adoption of the family of International Standards of the ISO 37100 Series and in particular ISO 37101:2016 will assist and will support the strategies and initiatives of Greek cities to meet international obligations and to meet UN Agenda for Sustainable Development until 2030. In this family of standards, ISO 37101 establishes requirements for a management system for sustainable development in communities, including cities, while ISO 37120 defines a set of indicators to steer and measure the performance of city services and quality of life. Moving towards the same direction Hellenic Organization for Standardization has issued Hellenic Standard 1457 that builds upon ISO

37120 and provides additional indicators able to capture current and tomorrow's needs of Greek cities.