

Smart Cities - Demystified

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Abstract:

There is a continuous migration of population from the rural to urban areas due to various reasons. According to estimates, 60% of the world population will live in urban areas by the year 2050. This has caused multifold sustainable challenges in terms of air quality, water availability, energy crisis, effective healthcare, and environmental pollution. Rapid urban population growth in the existing cities causes resources constraints. Hence, smart cities (aka intelligent cities or smart sustainable cities) have been envisioned to mitigate these problems. The smart cities may use one or multiple smart components including smart healthcare, smart grids, smart transportation, smart buildings, and smart communications, depending on its design and operation cost. The objective of the smart cities is the better utilization of available resource to improve quality of life of citizens. While there is a need for smart cities, latest information and communication technology (ICT) including Internet-of-Things (IoT), cyber physical Systems (CPS), wireless technology, sensor technology, have been relentless drivers of the smart cities. In this talk the various components of the smart cities and the underneath technologies will be elaborated. The audience will find answers to several questions on smart cities including the following: (1) what are smart cities? (2) What are the technologies that make smart cities possible? (3) What are the characteristics of smart cities? (4) How to design and implement smart cities? (5) What are the challenges of smart cities? (6) What are the research directions for the design and operation of efficient smart cities? (7) What are the various industry, academia, and Government initiatives around the globe on smart cities?