

Navigation Technologies for Smart Communication

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The smart city initiative utilizes real-time data for implementing real-time smart services and for managing the city as a whole. Providing smart communication systems in any environment, be it a city, a rural area, or an undersea environment, is becoming one of the key issues in providing high performance communication solutions. Human quality of life will be improved by advancing technology in these environments, sustainable agriculture and aquaculture will be decreased, and world sustainability will be improved. Navigation systems can be used to determine the optimal route toward a given destination. A satellite-based radio navigation system and the Global Positioning System (GPS) are key components of its effectiveness. Geospatial information systems (GIS) are systems for capturing, storing, manipulating, analyzing, presenting, and managing a wide variety of data related to the geography of a specific area. A key step in the direction of a more natural navigation is the introduction of buildings to be used as landmarks and corresponding spoken instructions to correspond with them. It can be accomplished by integrating GPS technology with GIS technology.

With real-time data at their disposal, smart cities are pioneering new approaches to governance and implementing smart services. During the transition to 6G networks, smart devices that rely on sensors to learn and track behaviour will be under a tremendous amount of pressure to be able to predict and optimize trends and patterns to control the several smart applications. They enable people and data to be more effective by easily capturing, processing and delivering insights through smart communication. For optimal user experience, identifying and implementing enabling

technologies for smart communication and their implementation are critical at an inflexion point in smart communication. In the digital future of the 6G era, the ability to connect and control billions of IoT devices of various sizes, from macro-scale to micro-scale, will be aided greatly by the use of artificial intelligence, blockchains, software-defined networks, and distributed machine learning technologies. Therefore, it has become increasingly important to use smart communication technologies that optimize the use of network resources, reduce network traffic, and ensure safety.