Executive Summary

Smart cities are developing to benefit the people with use of IoT (internet of things) by connecting people, process data and things. Smart cities are emerging because of IoT-related projects, platforms and implementations. Basically IoT designed to respond to the need for real-time, context-specific information intelligence and analytics to address local crucial. Today, people are connected to each other with the use of internet devices like smart phones, PCs etc. and social networking sites like Facebook, Twitter and LinkedIn. So we can say people will became nodes on internet with both static information and a constantly emitting activity system. IoT devices collect the data and stream it over the internet to centralized system, where it is processed and analyzed to make intelligent decisions by combining data into useful information. Instead of describing raw data, connected things will soon send higher-level information back to machines, computers and people for further evaluation and decision making. This conversion of data into information is required to make faster and intelligent decision to control environment effectively. If we talk about things we can say it is made up of physical items such as sensors, consumer devices and enterprise assets that are connected to both the internet and each other. In IoT, things are used to sense data, become context-aware and provide more experiential information to help people and machines to make relevant and valuable decisions. These things in IoT include sensors used in bridges, roads, mobile devices etc. so whatever the information generated can be transfer to correct person in correct time in appropriate ways.

This research project aims to propose some ideas regarding the creation of smartness in present devices over the use of internet. Such devices may have inbuilt intelligence like they can communicate with each other. In this project we have divide the project in four tasks i.e. smart infrastructure, smart transportation and building, smart healthcare and safety, also some proposal related to smart environment. In smart infrastructure it is possible to fabricate the augmented reality, smart notification to the user through visualized appliance, advance metering for electricity meters and many more. In second task, we raise our proposal related to smart transportation and building by sensors based traffic control system to avoid accidents, real-time monitoring of parking slots, creating pollution free environment. In third task, we present our idea for smart healthcare and safety, we talk about real-time monitoring of health condition of patient, intrusion detection systems for security purpose and also alarms for alerting each individual regarding locations. In the end task, we discuss our idea about smart environment like creation of smart library in urban and rural areas, smart garbage collection, pollution free environment and adequate open green space. All above proposals based on IoT devices will generates the enormous data which needs to be stored and processed for future prediction and decision making. Big data analysis can play a vital role in analyzing and processing such real-time data generating through various sources.

The enlargement of big data and the expansion of Internet of Things (IoT) technologies have played an important role in the feasibility of smart city enterprises. Big data provide the future for cities to obtain valuable intuitions from a huge amount of data possessed through enormous sources, and the IoT allows the integration of sensors, radiofrequency identification, and Bluetooth in the real-world environment using highly networked services. The collaboration of the IoT and big data is an unexplored research area that has brought new and interesting challenges for achieving the goal of future smart cities. These new challenges focus primarily on problems related to business and technology that enable cities to actualize the vision, principles, and requirements of the applications of smart cities by realizing the main smart environment characteristics. The visions of big data analytics to support smart cities are discussed by focusing on how big data can fundamentally change urban populations at different levels. Moreover, a future business model that can manage big data for smart cities is proposed, and the business and technological research challenges are identified. This study can serve as a guideline for researchers and industries for the future progress and development of smart cities in the context of big data.