Project Design Phase-I Proposed Solution

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| Date | 19 September 2022 |
| Team ID | PNT2022TMID23468 |
| Project Name | Smart Waste Management System For Metropolitan Cities |
| Maximum Marks | 2 Marks |

**Proposed Solution :**

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| **S.No.** | **Parameter** | **Description** |
| 1. | Problem Statement (Problem to be  solved) | In this technology, Sensors require power for various operations. Energy is consumed in data collection, data method, and data communication. Wireless sensor networks once deployed should be in a position to work with none human intervention. It should be in a position to manage the network  configuration, adaptation, maintenance, and repair by itself. Quality of service is the level of service provided by the sensor networks to its users. WSN are being used in various real time and vital applications, so it is mandatory for the network to offer sensible QoS.Requires a lot of maintenance price. The bins are clean only if it's totally stuffed. |
| 2. | Idea / Solution description | Even if knowledge Confidentiality and Data Integrity is assured, there is a desire to make sure the freshness of every message. To solve this problem another time-related counter, can be other into the packet to make sure knowledge freshness. A sensor network designed to find faults can would like correct location data in order to pin purpose the placement of a fault. Providing awareness of the presence of sensor nodes and knowledge acquisition is notably vital. |
| 3. | Novelty / Uniqueness | A wireless sensor network is a collection of large number of sensor nodes and at least one base station. The sensor node is an autonomous small device that consists of mainly four units that are sensing, processing, communication and power supply. These sensors are used to collect the information from the environment and pass it on to base station. A base station provides a connection to the wired world where the collected data is processed, analyzed and presented to useful applications. Thus by embedding processing and communication within the physical world, Wireless Sensor Network (WSN) can be used as a tool to bridge real and virtual environment |
| 4. | Social Impact / Customer Satisfaction | A large proportion of recyclable components Le. paper, plastics, metal, etc. is collected by rag pickers from the garbage bins, from roadside or in streets marker paces, et in metropolitan cities, thus supplying raw material to the flourishing recycling units About 0.75 million tones of plastics wastes are recycled every year in india in othe business is very lucrative and can fetch anything between Rs 3 to Rs 15 per kg at each stage of the transfer. In smaller cites and towns about 14-20% of the total garbage comes of recyclable tems (TERI, 1998) This excludes the plastics and paper retained in the households to be sold. The plastica recycling industry in India is valued at 25 rupees at pre-granulation stage and 39 billion rupees at the post-granulation stage |
| 5. | Business Model (Revenue Model) | **Residential Customers**, comprising residential homeowners and renters to which the Company provides services such as curbside pickup, dumpster collection, and portable storage. **industrial Customers**, comprising various industrial entities, including construction firms, manufacturers, healthcare providers, and foodservice businesses, to which the Company provides specialist waste management services |
| 6. | Scalability of the Solution | IoT based projects are already designed while keeping future demands in mind and in a rising economy like India where the concept of smart cities is new the demand for our project will keep on increasing. This project here is a model of the large scale application which spans pan India in different smart cities. The implementation of this project has been divided into various phases. Starting from the metropolitan cities and moving towards the concept of smart cities, it will also cover small towns and tier III cities in later phases. |