**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 17 October 2022 |
| Team ID | PNT2022TMID50747 |
| Project Name | Smart Waste Management System for Metropolitan Cities |

**Proposed Solution Template:**

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Garbage Management and Collection in Cities, Town and Villages is a major concern and emerging problem in Smart City paradigm. Also lack of proper resource distribution in the process of Garbage collection is great risk to sanitation, cleanliness and health. |
|  | Idea / Solution description | * Prevent overflowing of Garbage bins due to real-time status of bins on centralized system and mobile application. * Efficient route calculation for garbage collector van is also proposed for minimising the efforts in collection. |
|  | Novelty / Uniqueness | Smart waste management is characterized by the usage of technology in order to be more efficient when it comes to managing waste. This makes it possible to plan more efficient routes for the trash collectors who empty the bins, but also lowers the chance of any bin being full for over a week! |
|  | Social Impact / Customer Satisfaction | Reducing waste will not only protect the environment but will also save on costs or reduce expenses for disposal. In the same way, recycling and/or reusing the waste that is produced benefits the environment by lessening the need to extract resources and lowers the potential for contamination. |
|  | Business Model (Revenue Model) | * We can provide the application on a subscription and advertising basis. * Waste Management generates revenue through the provision of various waste management and disposal services and recycling solutions to residential, commercial, industrial, and municipal clients. The Company derives its revenue in the form of various fees associated with its service offerings. |
|  | Scalability of the Solution | A significant advantage of the proposed approach is that the system is not limited to a specific type or size of waste-bin but can be scaled regarding any of its components including wastebin sizes and shapes, numbers of sensors and information data flow. This is due to the fact that the architectural components have discrete roles and functional independence. |