Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID11010
Project Name	Project – Smart Waste Management System for Metropolitan Cities
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	A big challenge in the urban cities is solid waste management. The garbage collecting authority in traditional waste management system doesn't know about the level of garbage in dustbin, if the dust bins gets full by garbage then it gets overflowed as well as spelled out from the dustbin leading to unhygienic condition in cities. People throw garbage on that dustbin which is already overflowed. Sometimes due to unclean garbage bins bad smell arises also toxic and unhygienic gases are produced which is way to support to the air pollution and to some harmful diseases which are easily spreadable. It is very bad look of the city. Use of traditional system result in inefficient and time and money spending system.
2.	Idea / Solution description	This project deals with the problem of waste management in smart cities, where the garbage collection system is not optimized. This project enables the organizations to meet their needs of smart garbage management systems. This system allows the user to know the fill level of each garbage bin in a locality or city at all times, to give a cost-effective and time-saving route to the truck drivers. • GPS coordinates of the garbage bin will be sent to the IBM IoT platform. • The location of the bins along with the bin status can be viewed in the web app. • Notifies the admin if the bin value crosses the threshold value.

3.	Novelty / Uniqueness	• As smart transport vehicles go only to the filled containers, it reduces infrastructure, operating and maintenance cost. • Reduces manpower requirement to handle garbage collection process. • Keeps our surroundings clean, green and free from bad odour of wastes.
4.	Social Impact / Customer Satisfaction	Smart waste management technology improves the management of the city services by using in-built sensors where data analytics and technology together notifies the waste collectors, reduces the odour and enhances the appearance of the bins in public areas. In addition, it helps improve the quality of life of the people.
5.	Business Model (Revenue Model)	The end product will be efficient in both financial and economical factor. Wastes will be exist as long as the humans exist, so with the evolution the technology this product will be helpful to manage waste and make city clean.
6.	Scalability of the Solution	Waste management is economically viable and scalable. Each sensor has its own independent area of responsibility and there is no overlap between areas of various sensors.