Project Design Phase-I
Proposed Solution Template

Date	8 October 2022
Team ID	PNT2022TMID37903
Project Name	Project - Smart Waste Management System For Metropolitan Cities
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	People who are living in a metropolitan areas
2.	Idea / Solution description	In order to deal with these problems Smart bin is an ideology put forward which is a combination of hardware and software technologies i.e. connecting Wi-Fi system to the normal dustbin in order to provide free internet facilities to the user for a particular period of time.
3.	Novelty / Uniqueness	After product commissioning is done also we provide continue customer support,both site visit as well as remote support based on customer requirement. comparatively our product is better than current market available product in someway like product design, features, affordable price ,etc .
4.	Social Impact / Customer Satisfaction	Social impact : Public awareness and proper knowledge of waste management and end use of different types of waste, health effects, environmental problems and economic issues that are related to waste management is very important for successful execution of any waste management related practices. Customer satisfaction : Reduces the route optimization ,fuel consumption while emptying the dumpsters throughout the city . Save both the time and money
5.	Business Model (Revenue Model)	The global smart waste management market size was valued at $1,683.0 million in 2019, and is expected to reach $4,103.6 million by 2027, registering a CAGR of 15.1% from 2020 to 2027. Smart waste management is the concept that uses sensors in waste to track live status of city waste collection services when bins are ready to be emptied, or filled. It also monitors

		historical data collected by sensors and databases, which can be used to identify and optimize driver routes, fill patterns, reduce operational costs, and schedules. Remote monitoring, and IoT based waste bins are more feasible to collect waste effectively. It also reduces routing and fuel prices.It's market is segmented on the basis of waste type, method, source, and region. By waste type, it is divided into solid waste, special waste, and e-waste. Solid waste segment generated the highest revenue in 2019. On the basis of method, the market is divided into smart collection, smart processing, and smart energy recovery & smart disposal.
6.	Scalability of the Solution	Iot for smart waste management's strength lies in the high impacts it created in the daily life and the potential user's behavior.However, for it to be more effective and increase its adoption, it is require to be energy efficient, able to communicate and share information across extended coverage.Existing technology such as Low Power Wide Area Network (LPWAN) with Long Range (LoRa) has been promising. In the perspective of waste management, several different IoT-enable solutions have been proffered with each having its own strengths and weaknesses that requires improvements.