

**Project Design Phase-I**  
**Proposed Solution Template**

Date	29 September 2022
Team ID	PNT2022TMID1438
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 the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<p>The process in current city setting solves the waste problem partially while it creates other problems such as, Some trash bins are overfilled while others are underfilled by the trash collection time, overfilled trash bins create unhygienic conditions, unoptimized truck routes result in excessive fuel usage and environmental pollution and all collected trash is combined which complicates sorting at the recycling facility. Some of these problems can be mitigated by implementing smart waste management systems.</p>
2.	Idea / Solution description	<p>In this system, a 24×7 monitoring system is designed for monitoring dumpsters. Here a smart and organized system is designed for selective clearing. The ultrasonic sensor is used for measuring the level of waste in the dumpster. DC motor powered platform is used for segregating wet and dry waste. IR sensor and moisture sensor is used for separating wet and dry waste. If either of the containers is full then an alert message is sent from the dumpster. In turn, employees can clear the corresponding dumpster. All these sensors are connected to an Arduino Uno board. It can be used for controlling all mechanical setup based on current conditions</p>

3.	Novelty / Uniqueness	<ul style="list-style-type: none"> <li>● Identify potential streams</li> <li>● Create waste management- focused community outreach plane</li> </ul>
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> <li>● Neighbourhood of landfills to communities, breeding of pests and loss in property values</li> <li>● The IOT solution use the data and select optimum routes for waste collection trucks</li> </ul>
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> <li>● It generates revenue through the provision of various waste management and disposal services.</li> <li>● Recycling solutions to residential, commercial, industrial and municipal clients</li> </ul>
6.	Scalability of the Solution	<ul style="list-style-type: none"> <li>● Installing more bins for collecting recyclables like paper ,glass and plastic.</li> <li>● Recycling not only saves energy but also prevent the material from going to landfills &amp; incineration and provide raw material for new products</li> </ul>