

Project Design Phase-I
Proposed Solution Template

Date	24 th September 2022
Team ID	PNT2022TMID37162
Project Name	Smart Waste Management System for Metropolitan Cities

PROPOSED SOLUTION :

S NO	PARAMETER	DESCRIPTION
1.	Problem Statement (Problem to be solved)	The current method of waste management has a very serious impact on the environment and on the health of the people . The main problem is the bins where all the people dispose their wastes are not being properly monitored and emptied on time which leads to the overflow of bins and wastes being spread in the roads .
2.	Idea / Solution description	<p>To overcome this problem we are introducing a smart waste management system through which the bins can be monitored frequently and emptied on time before the bin overflows. The main idea of this solution is :</p> <ul style="list-style-type: none">• Monitor the level of the bin by frequently by using a appropriate sensor mechanism• The level of the bin is frequently updated to the authorized person using a LoRaWAN• The door of the bin uses a hydraulic system which opens and closes only when the button is pressed , the button can be at bottom of the bin so the people can use their feet to open the door when needed.• The web application is created in such a way that the bin with highest level is displayed first .

		<ul style="list-style-type: none"> • The cleaning staffs are given duty based on the nearest bin which has the highest level first to ensure efficient usage of fuel and reduce the work pressure for them • A mobile application for the users(public) to complaint which only gets their location and tell the admin directly through notification if the wastes are spread on the roads and if they are un-hygienic .
3.	Novelty / Uniqueness	<p>The unique idea of this solution is ,</p> <ul style="list-style-type: none"> • The hydraulic opening and closing of the bin door which can have a good impact in this system • The application is efficient as it gives the nearest full bin first that should emptied by person • A mobile application for the general public to notify the admin directly if the wastes are spread across the roads even before when the bin has become full .
4.	Social Impact / Customer Satisfaction	<p>The people can live a healthy and peaceful life . Proper disposal of wastes will reduce the risk of disease spreading and bad smell on roads and improves for a better air quality in the surroundings.</p>
5.	Business Model (Revenue Model)	<p>The plastics wastes collected from bins can be recycled in a proper through industries that use them .</p>
6.	Scalability of the Solution	<p>The solution can help the people have a clean and hygienic environment . Wastes are disposed properly and in an efficient way .</p>

