

Project Design Phase-I
Proposed Solution Template

Date	18 October 2022
Team ID	PNT2022TMID28587
Project Name	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)	Poor waste management ranging from non-existing collection systems to ineffective disposal -causes air pollution, water and soil contamination . Open and unsanitary landfills contribute to contamination of drinking water and can cause infection and transmit diseases
2.	Idea / Solution description	IoT-based smart sensors help you utilize smart bin sensor technology, which Track the location with real-time data. View fullness levels for creating daily optimized routes for collection.
3.	Novelty / Uniqueness	The traditional waste management system can be replaced by smart sensors embedded into the system to perform real time monitoring allow for better waste management system along with the object detection model and ultrasonic sensor to detect the level of filling.
4.	Social Impact / Customer Satisfaction	Reduction and reuse, animal feeding, recycling, composting, fermentation, landfills, incineration, and land application. Can help in saving the resources, reducing pollution, saving energy, taking care of the environment
5.	Business Model (Revenue Model)	To reduce the operating cost and increase the number of waste images in the data set to increase the flexibility of the system, LoRa communication protocol for low power and long range data transmission.
6.	Scalability of the Solution	Reduced waste disposal costs, greenhouse gas emissions from landfill and incineration, energy consumption from the manufacturing process, increased economic productivity, nuisance created by odour and visual intrusion from landfill sites and improved corporate reporting and green credentials for business.