

Ideation Phase

Define the Problem Statements

Date	19 September 2022
Team ID	PNT2022TMID15126
Project Name	Smart Waste Management System for Metropolitan Cities.
Maximum Marks	2 Marks

Problem Statement:

India faces major environmental challenges associated with waste generation and inadequate waste collection, transport, treatment, and disposal. Current systems in India cannot cope with the volumes of waste generated by an increasing urban population, and this impacts on the environment and public health. The challenges and barriers are significant, but so are the opportunities. This paper reports on an international seminar on ‘Sustainable solid waste management for cities: opportunities in South Asian Association for Regional Cooperation (SAARC) countries’ organized by the Council of Scientific and Industrial Research-National Environmental Engineering Research Institute and the Royal Society.

With increasing populations, changing policy requirements, new sustainability and recycling goals and improved technology departments, municipalities across the globe are joining the “smart cities” movement to become more efficient in managing solid waste. The improvement of the urban waste collection service and, in general, the achievement of a more efficient management of the waste, is one of the main challenges that the cities face, especially due to the population growth. Thus, smart waste management is a key factor of smart cities.



In Governments' view,

*I am* – Metropolitan city

*I’m trying to* – keep my city clean and neat

*But* – I can't be able to achieve what I’m trying to

*Because* – there is no way I can directly connect people with waste management.

*Which makes me feel* – making me unclean and making people unhappy.

In people’s view,

*I am* – A Citizen

*I’m trying to* – make my surroundings and environment clean

*But* – I’m unaware about the corporation waste management system

*Because* – I’m unaware of the bins and every waste is mixed up in the same bins. Most of us don’t know where the bin is even though it is there. It is filled and remains uncollected.

*Which makes me feel* – this makes me feel uncomfortable with the surroundings and makes me feel unsustainable.

Our idea to mitigate the problem is,

- ✚ The waste management services take care of a healthy environment allowing optimization of the utilities and prevent overloading the carrier for waste disposal. Smart waste management also contributes to the overall waste recycling efficiency and provides the route optimization opportunity for utilities to reduce traffic and fuel use.
- ✚ A modern smart waste management system would include a sensor attached to the trash bin that measures fill level; and a communication system that transfers this data to Cloud. Data is processed in the Cloud; thus, the route of collection trucks is optimized.

