

Project Design Phase-I

Solution Architecture

Team ID	PNT2022TMID15286
Project Name	Smart Waste Management System for Metropolitan Cities
Maximum Marks	4 Marks

Solution Architecture :

Managing our waste in a smarter manner is hugely important to the quality of our daily lives, and Guardforce, a pioneer of innovative smart city solutions, is contributing to improving inefficient waste management with Smart Bins.

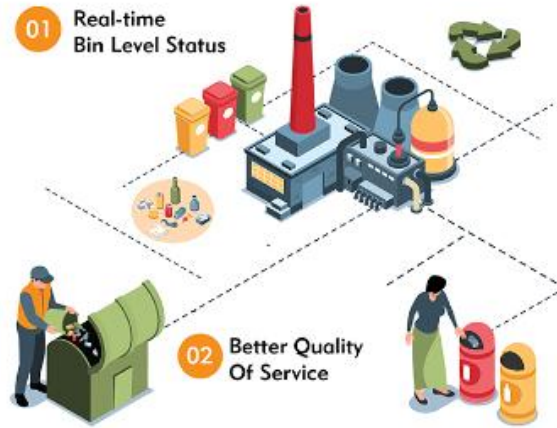
The Ultrasonic Fill-level Sensor -This sensor is embedded inside the bin to detect how full it is, and sends the data back to a cloud-based analytics platform to alert those responsible for the bin.

Solar-powered Trash Compactors -When the waste inside a bin reaches a pre-set level, the solar-powered trash compactor will be activated to compress the waste allowing the bin to hold up to eight times more waste and reduce the collection frequency by up to 80%. This is a huge boon for managing bins in remote areas like large parks or beachside areas and campsites.

Fleet Management Platform -This is another clever idea that gathers all the information on all the bins in a given area through one monitoring platform and a single dashboard so cleansing staff can work more efficiently and tailor their routes to tackle the bins most in need of emptying first.

Safety Detection -This involves an intelligent sensor to, for example, stop the compacting process when a hand is detected. If a fire is detected inside the bin, the fire sensor will send an immediate signal to notify those responsible for the bin or even activate a compressor to put the fire out.

01 Real-time
Bin Level Status



02 Better Quality
Of Service

Smart Bin Solutions

03 Efficient Resource
& Route Planning



04 Real-time
Alerts



