**SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES**

**IDEATION :**

1. **OBJECTIVES :**

During the last century, the world population has been quadrupled, and there has been major relocations from rural to urban areas. Today 50% of the world's population inhabit cities and this number is expected to reach 70% by 2050.

About 2.1 billion tonnes. of municipal solid waste is generated annually around the globe? Population growth and rapid urbanization lead to a huge increase in waste generation, so the traditional methods of waste collection have become inefficient and costly.

The most efficient way this extraordinary amount of waste can be solved is through smart waste management with obsolete methods of waste collection.

Challenges of Traditional Waste Collection & Management System

* Inefficient way to identify the waste collection
* Fixed routine for waste collection
* Wastage of Resources (Labor, Fuel etc.)
* Missed pick-ups, causing unclean environment

1. O**BJECTIVE :**

Before implementing GreenQ's smart truck System, the municipality had a collection of trucks in route 3x a week from outside the city. The municipality wanted to find and improve inefficiency via workers deviating from work areas, tardiness and desertion, and replacing current inspection methods.

SOLUTION

The analysis of the smart truck System concluded and recommended reducing the trucks weekly pick up by a day while adding additional garbage bins in specific areas. The daily weighing procedure of the truck also deemed redundant and cost-inefficient, as it is already a tool incorporated in the System.

In addition, data showed the need for trucks to stay closer to the city to cut down on emissions while on route. Adjustment from the recommendations would lead to a 53% reduction in costs of CO2 emissions, diesel consumption, and distance needed for driving. The return on investment for the municipality would be in less than a year, as well as overall reduced costs over the year.

1. **OBJECTIVE**

**Truck based waste management system, that transforms any garbage truck into a smart city**

**SOLUTION**

**Truck based waste management system, that transforms any garbage truck into a smart truck by measuring weight and capacity for each lifted can, while monitoring pickup time and location. The technology simplifies the relationship between the hauler and customer, increasing efficiency while reducing costs.**

1. **OBJECTIVE**

**Measure bulk waste and monitor collection by mounting GreenQ’s system on your grapple truck.**

**SOLUTIONS**

Measure bulk waste and monitor collection by mounting GreenQ’s system on your grapple truck. The smart grapple solution helps you gather data and turn into useful insights for your collection process.

**5)OBJECTIVE:**

GreenQ’s system is installed on the compactor, and can tell you when are your stationary compactors are full

**SOLUTIONS:**

GreenQ’s system is installed on the compactor, and can tell you when are your stationary compactors are full and when is the right time to pick them up. Stop collecting half empty containers.

**6)OBJECTIVE:**

A Solution designed for crane trucks collecting underground bins, making them smart trucks.

**SOLUTION**

**A Solution designed for crane trucks collecting underground bins, making them smart trucks. The system will generate a waste production rate map on a city scale, and give you a clear, bigger picture.**