

# *Smart Waste Management System For Metropolitan Cities*

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<i><b>Team ID</b></i>	PNT2022TMID38381
<i><b>Project Name</b></i>	<i>Smart Waste Management System For Metropolitan Cities</i>

## **PROBLEM STATEMENT:**

Mr. Raman is a 30 years old man and he lived in a clumsy area,so he Faced many problems in an unhygienic environment that lead to air pollution,water pollution as well as sand pollution.

- He wants to know the best solution for waste disposal.
- He has faced a huge number of issues related to that and in many cases health problems and various diseases.
- This problem is usually faced by the public.
- Mr. Raman to know the result immediately.

<i><b>Who does the problem affect?</b></i>	<i>Public affects because of an unhygienic environment and they may lead to the cause of health problems.</i>
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<p><b><i>What are the boundaries of the problem?</i></b></p>	<ul style="list-style-type: none"> <li>● <i>Lack of Waste Collecting Points.</i></li> <li>● <i>Irregularity of Waste Collection.</i></li> <li>● <i>Inadequate Waste Collection Vehicles.</i></li> <li>● <i>Inadequate Access to Waste Bins.</i></li> <li>● <i>Alternatives to Final Waste Disposal (Burning and Illegal Dumping) .</i></li> <li>● <i>Improper Waste Separation Facilities</i></li> </ul>
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<p><b><i>What is the issue?</i></b></p>	<p><i>The major problems affecting solid waste management are <b>unscientific treatment, improper collection of waste, and ethical problems.</b> This in turn leads to hazards like environmental degradation, water pollution, soil pollution, and air pollution.</i></p>
<p><b><i>When does the issue occur?</i></b></p>	<p><i><b>By the 1700s,</b> refuse had become a major problem: waste was still dumped in the streets and open burning of garbage was a common practice.</i></p>

<b><i>Where does the issue occur?</i></b>	<ul style="list-style-type: none"> <li>• <i>Commercial establishments.</i></li> <li>• <i>Residential houses.</i></li> <li>• <i>Debris from construction and demolition.</i></li> <li>• <i>Debris from roads (such as asphalt and scrap metal)</i></li> <li>• <i>Scrap from vehicles.</i></li> <li>• <i>Agriculture.</i></li> </ul>
<b><i>Why is it important that we fix the problem?</i></b>	<p><b><i>When rubbish isn't disposed of properly, it can leak harmful pollutants into the air, soil and water. This can cause</i></b></p> <p><i>environmental damage as well as impacting people's health negatively – proper waste disposal</i></p>

	<i>helps to prevent this.</i>
<b><i>What solution to solve this issue?</i></b>	<p><b><i>Recycling, burning, incineration, sewage treatment and dumping</i></b> are methods for waste management.</p>

<b><i>What methodology used to solve the issue?</i></b>	<i>Networking technologies enable IoT devices to communicate with other devices, applications, and services running in the cloud. Node Red Starter Kit, IBM Cloudant DB, IBM Watson Assistant are also used to improve the methodology of smart waste management systems for metropolitan cities.</i>
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