Project Design Phase
Proposed Solution Template

Date	15 February 2025
Team ID	LTVIP2025TMID34173
Project Name	Transforming Waste Management With Transfer Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Inefficient waste management systems lack the ability to adapt dynamically to different local data and waste patterns, leading to poor recycling rates and high operational costs.
2.	Idea / Solution description	Use transfer learning to adapt pre-trained AI models for waste classification, route optimization, and data analysis using minimal local training data.
3.	Novelty / Uniqueness	Unlike traditional models, this solution requires significantly less labeled data to achieve high accuracy, enabling rapid deployment in diverse regions.
4.	Social Impact / Customer Satisfaction	Improves cleanliness, reduces environmental damage, and enables smart city initiatives—benefiting citizens, municipalities, and future generations.
5.	Business Model (Revenue Model)	Offer AI-as-a-Service to municipalities and waste management companies on a subscription basis; additional revenue from data analytics dashboards.
6.	Scalability of the Solution	Highly scalable across cities and countries due to the adaptability of transfer learning to new data sources and minimal infrastructure requirements.