

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	28 June 2025
Team ID	LTVIP2025TMID60547
Project Name	Sustainable Smart City Assistant Using IBM Granite LLM
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration via form, Gmail, and LinkedIn
FR-2	User Confirmation	Confirmation via Email and OTP
FR-3	Feedback System	Citizen submits feedback with category tagging (e.g., water, road)
FR-4	AI Chat Assistant	Users interact with Granite LLM to ask sustainability-related queries
FR-5	Policy Summarization	Admin uploads policy documents → Granite LLM returns summaries
FR-6	KPI Forecasting	Admin uploads KPI files → ML model forecasts next values
FR-7	Anomaly Detection	Detects abnormal spikes in KPIs and flags anomalies
FR-8	Semantic Document Search	Users input queries → Pinecone + LLM return relevant policy sections
FR-9	Eco Tips Generator	Users input topics like “plastic” → system generates AI tips
FR-10	Sustainability Report Generator	Admin selects city + KPIs → Granite LLM generates a full report

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Clean, user-friendly dashboard using Streamlit; intuitive navigation
NFR-2	Security	API key encryption via dotenv; user authentication for admins and citizens
NFR-3	Reliability	The system reliably stores and fetches user data, feedback, and forecasts
NFR-4	Performance	Fast API response times via FastAPI; optimized ML & LLM request handling
NFR-5	Availability	System accessible 24/7 with minimal downtime for users and administrators
NFR-6	Scalability	Backend supports increasing document uploads, feedback entries, and search load