

To convert this Agile-based Sprint plan into a **Sustainable Smart City Assistant** project using **IBM Granite LLM**, we need to align the structure (Sprints, Epics, Stories, Story Points) to tasks relevant to a smart city solution while incorporating the use of **IBM Granite LLM** for AI-related components (e.g., NLP, chatbot, data insights).

Project Overview

Project Name: Sustainable Smart City Assistant

Goal: Develop an AI-powered assistant using IBM Granite LLM that helps citizens interact with smart city services (like transport, waste management, energy, water usage, etc.) and provides sustainability insights.

Epics, Stories & Story Points

Epic 1: Data Pipeline Development

Sprint 1

User Story 1: Data Collection

- *Story: Collect real-time city service data (traffic, utilities, waste management) – 2 SP*
- *Story: Load and store data into cloud database (e.g., IBM Cloudant or DB2) – 1 SP*

User Story 2: Data Preprocessing

- *Story: Handle missing/incorrect data in city service datasets – 3 SP*
- *Story: Convert categorical data (e.g., districts, service types) into usable format – 2 SP*

Sprint 1 Total Story Points = 8



Epic 2: AI Assistant Development with IBM Granite LLM

Sprint 2

User Story 3: Model Building

- *Story: Fine-tune IBM Granite LLM for local language queries and sustainability terms – 5 SP*
- *Story: Test LLM outputs for accuracy and bias in smart city context – 3 SP*

User Story 4: Assistant Deployment

-  Story: Design HTML UI for citizen query input and responses – 3 SP
-  Story: Deploy Flask-based API backend on IBM Cloud with Granite integration – 5 SP

 **Sprint 2 Total Story Points = 16**

Project Metrics

- **Total Story Points:** 24
 - **Number of Sprints:** 2
 - **Team Velocity:** $24 / 2 = 12$ Story Points/Sprint
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Deliverables by Sprint

Sprint 1: Functional Data Pipeline

- Sustainable city datasets ingested, cleaned, and preprocessed.
- Ready for model training and assistant integration.

Sprint 2: Working Assistant MVP

- Granite LLM integrated.
 - Web-based Assistant responds to sustainability queries.
 - Deployed on IBM Cloud using Flask backend.
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Potential Use Cases for Assistant

- "What is the best time to use public transport to reduce carbon footprint?"
 - "Show water consumption trends in my neighborhood."
 - "Report missed garbage collection."
 - "Tips for reducing energy usage during summer."
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IBM Tools Integration

- **IBM Granite LLM:** NLP for smart city queries.

- **IBM Cloud:** Hosting Flask app and databases.
 - **Watsonx.ai (Optional):** For advanced training and evaluation.
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