

## **GraphRAG Assistant – Sample Document**

### **Introduction**

This document is created to test an end-to-end Retrieval Augmented Generation (RAG) application using open-source technologies such as LangGraph, OpenSearch, and local Large Language Models (LLMs). The system is designed to answer user questions based only on the content stored in the document repository.

### **Business Overview**

The organization described in this document operates in the technology consulting domain. It provides services such as data analytics, machine learning model development, cloud migration, and AI-powered automation solutions. The company primarily serves clients from the finance, healthcare, and e-commerce sectors.

### **Revenue Model**

The company generates revenue through multiple channels: 1. Fixed-price project contracts 2. Monthly subscription-based analytics services 3. Pay-per-use API integrations 4. Long-term enterprise consulting agreements

### **Technology Stack**

The internal technology stack includes Python, FastAPI, OpenSearch for vector storage, LangGraph for agent orchestration, and open-source LLMs such as LLaMA running via Ollama. Sentence-transformers are used for embedding generation.

### **Security and Compliance**

All customer data is processed securely. Access control, audit logging, and encryption are implemented to comply with industry standards. The system does not send data to external cloud-based LLM providers, ensuring data privacy.

### **Conclusion**

This document serves as a reference for validating document ingestion, semantic search, context retrieval, memory handling, and token management within the GraphRAG Assistant application.