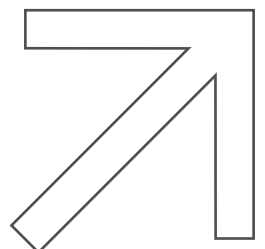




**STRATEGIC SYSTEMS**  
INTERNATIONAL

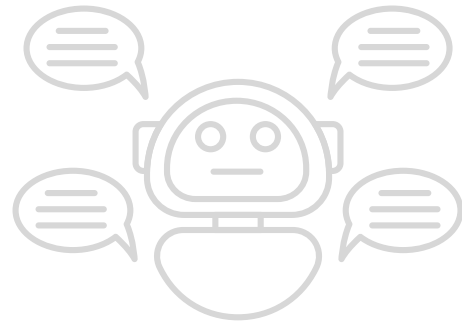
RAG Based

# **Generative AI Conversational System**



# The Engagement

A leading manufacturer of packaging and bottling machines, known for operating some of the largest bottling plants globally, sought to enhance its customer support services.



## Challenge



**High Inquiry Volume**

The customer support team handles numerous equipment-related inquiries that require manual document scanning and verification.

**Operational Delays**

Manual searching through hundreds of documents for complex machinery is time-consuming, causing delays and inefficiencies.

# Solution

## Gen-AI-powered Chatbot Agent

### Objective:

Develop an interactive AI-powered chatbot to assist customer support agents, ensuring smoother and more efficient customer interactions.

### Functionality:

The bot cross-references authoritative knowledge sources to provide accurate answers with source attributions, enhancing trust and confidence.

### User Accessibility:

Users can look up source documents for further clarification if needed.

### Integration of OpenAI's LLM and RAG

- **Large Language Models (LLM):** Capable of answering complex questions when provided with specific documents and prompt queries.
- **Retrieval Augmented Generation (RAG):** Enhances LLM performance by selecting the most relevant and domain-specific documents before passing them to the LLM.

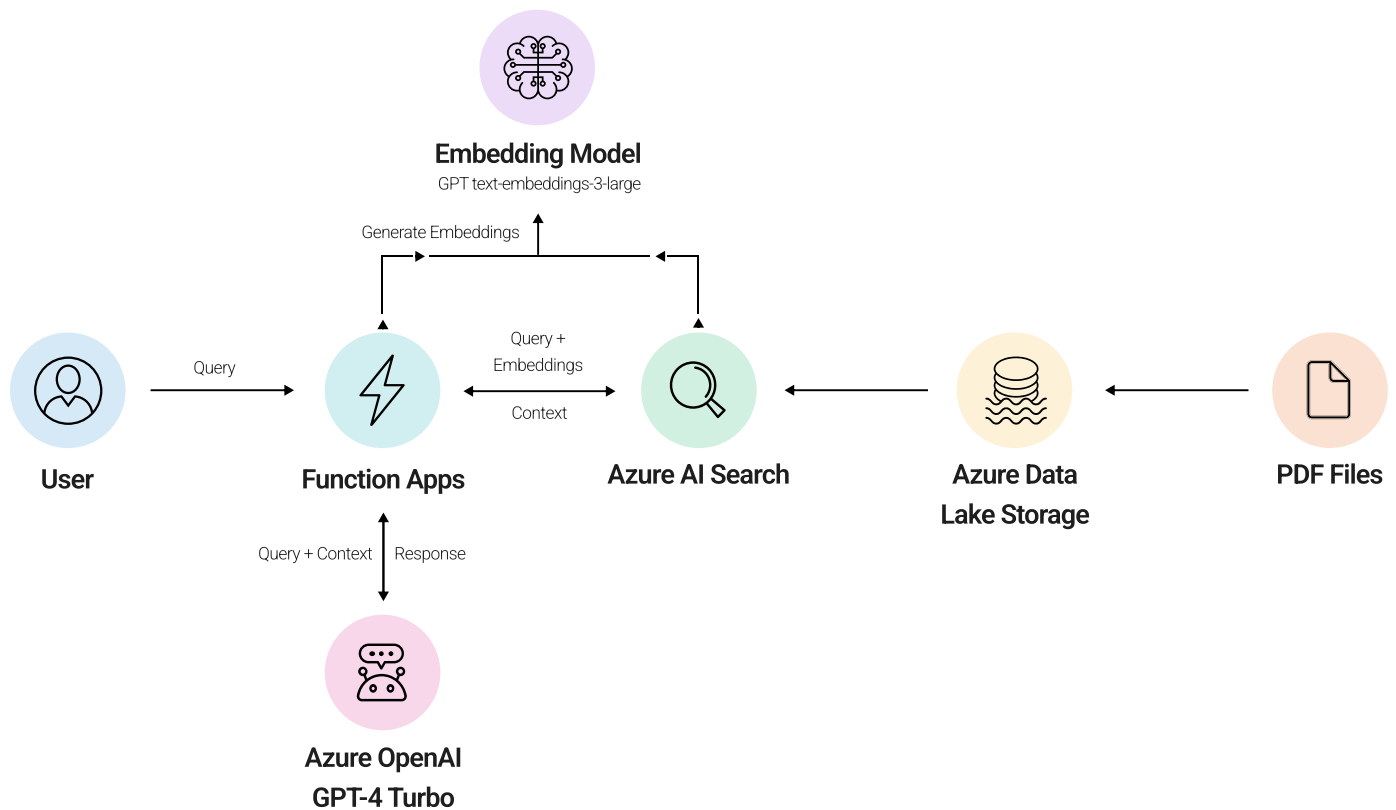
### Challenges Addressed by RAG

- **Domain-Specific Data:** LLMs struggle with industry-specific terminologies and practices.
- **Efficient Information Retrieval:** RAG ensures the language model finds and reads the right information quickly.

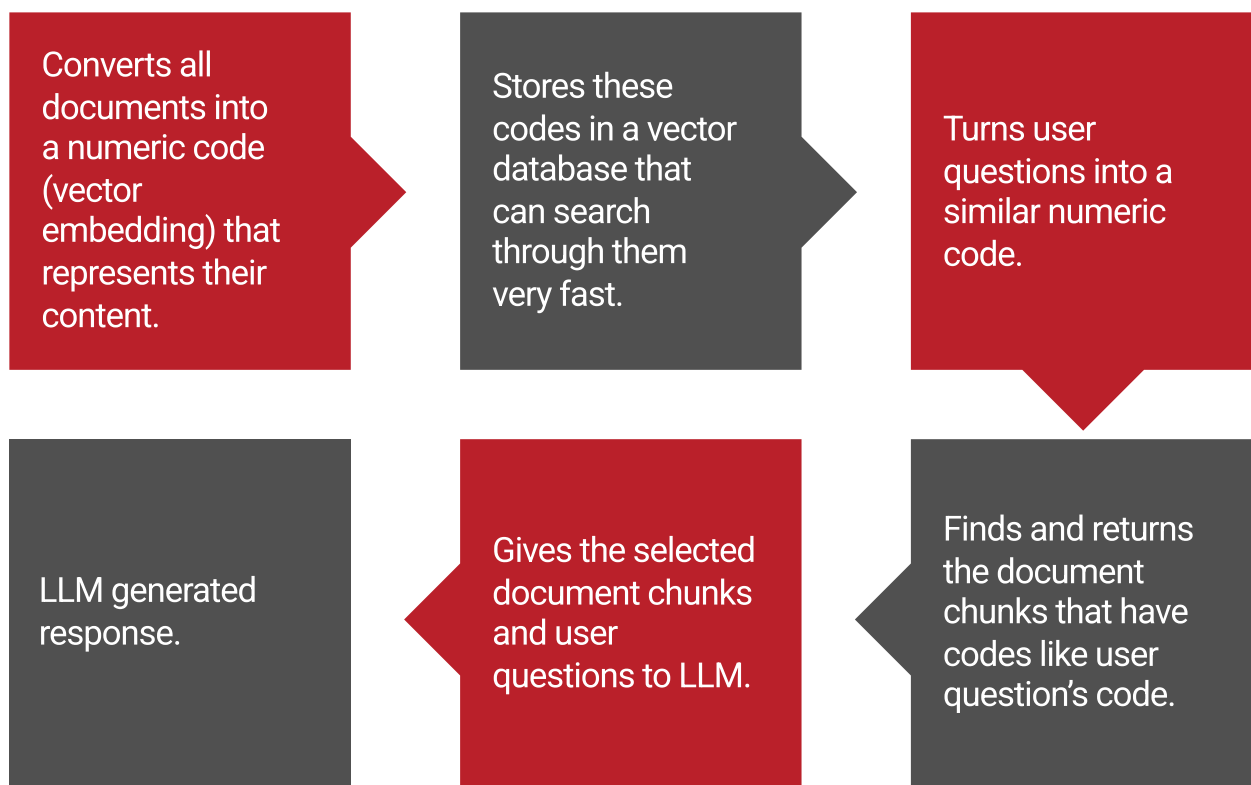
### Technology Stack

- **Vector / RAG Database:** Azure AI search
- **LLM:** Azure OpenAI GPT-4 Turbo
- **Embedding Model:** GPT text-embeddings-3-large

# Chatbot Architecture



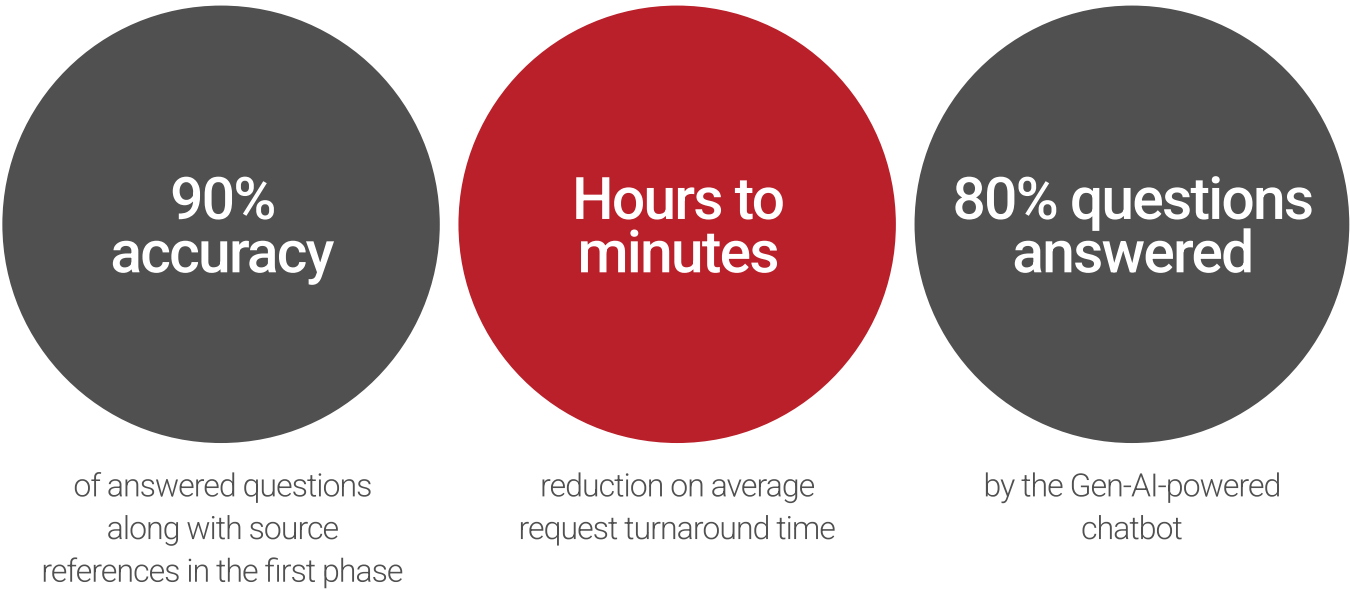
## Response Process



# Result

The implementation of the Gen-AI-powered chatbot has revolutionized customer support for the bottling industry, providing accurate, efficient, and multilingual assistance.

This advancement has not only enhanced customer and employee satisfaction but also streamlined operations, setting a new standard for industry-specific AI solutions.



Enhanced Query Handling	Tailored Support	Operational Efficiency	Multilingual Support
The bot identifies and addresses customer inquiries and complaints efficiently.	Advanced AI provides personalized support, increasing satisfaction for both customers and employees.	Streamlined operations lead to reduced response times and higher productivity.	Supports documents and queries in English and German, broadening accessibility.

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