TECH OFFER

AI-Powered Intelligence Platform for Construction Project Insights and Risk Management

KEY INFORMATION

TECHNOLOGY CATEGORY:
Infocomm - Big Data, Data Analytics, Data Mining & Data Visualisation
Infocomm - Artificial Intelligence

TECHNOLOGY READINESS LEVEL (TRL): TRL9
COUNTRY: SINGAPORE
ID NUMBER: TO175454

OVERVIEW

This AI-driven platform revolutionizes how construction and infrastructure projects are managed by transforming vast, unstructured project data into actionable intelligence. Built upon a large language model (LLM) trained on domain-specific data including regulatory requirements, contract documents, project schedules, communication logs, digital drawings, and specifications, the technology provides real-time insights and foresight across project lifecycles.

It detects risks, predicts cost and schedule deviations, and highlights potential regulatory non-compliance before they escalate into major issues. By integrating across existing tools and data sources such as Microsoft Teams, WhatsApp, SharePoint, and email systems, the AI engine enables project stakeholders to make informed decisions through a single intelligent interface.

Ideal collaboration partners include real estate developers, construction contractors, architecture and engineering consultants, and AI software integrators seeking to augment project performance through predictive analytics and knowledge automation.

TECHNOLOGY FEATURES & SPECIFICATIONS

The platform combines AI-powered analytics, retrieval-augmented generation (RAG), and multi-source data integration to deliver deep insights across complex construction environments. Key components include:

- Data Ingestion Engine: Connects to structured and unstructured data sources (contracts, drawings, communications, etc.) for comprehensive knowledge assimilation.
- Construction LLM Core: Continuously trained on industry-specific datasets to identify risk factors, cost trends, and schedule slippage patterns.
- Risk and Compliance Module: Detects potential regulatory breaches, project scope deviations, and cost anomalies through automated reasoning.
- Search & Advisory Interface: Enables natural language queries for retrieving contextual project information, insights, and recommendations.

It acts as an intelligent co-pilot for construction decision-making.

POTENTIAL APPLICATIONS

- Construction Project Management: Real-time detection of risks, non-compliance, and cost anomalies across multiple projects.
- Smart Infrastructure Development: Predictive analytics for large-scale public and private infrastructure programs.
- Software Integration for Built Environment: Embedding AI insights into existing ERP and workflow systems for developers and contractors.
- Complex Project Coordination: Enabling consultants and architects to query and visualize project intelligence across large digital datasets.

This technology can be deployed by companies in construction, real estate development to improve efficiency, compliance, and profitability across the project lifecycle.

UNIQUE VALUE PROPOSITION

This AI platform provides interpretive and predictive intelligence. Its unique strength lies in synthesizing information across disconnected systems. from contracts to chat messages, and generating foresight into cost overruns, schedule delays, and regulatory risks.

By acting as a “digital advisor” that understands construction semantics, it helps project teams anticipate challenges, optimize resources, and make timely, data-driven decisions. This transforms reactive project management into proactive and predictive project governance.