Maana Knowledge Platform Solution Brief

Maana turns human expertise and data from silos into digital knowledge for employees to make better and faster decisions.

Building Knowledge

The Platform enables enterprises to build and derive value from knowledge. At the core of the Maana Knowledge Platform, is the Computational Knowledge Graph™, a unique technology that separates the structure from the data and its content. This separation provides fluidity of modeling within a graph and makes it possible to re-purpose any data into a relevant structure. The platform enables users to create structural models from enterprise data and blend that with computational models that mathematically encode human expertise and are trained by subject-matter experts.

Digital Knowledge Layer

The blending of the structural and computational models, creates the digital knowledge layer. This digital knowledge demonstrates the relationships and interdependencies between various operational concepts that are key drivers of operations, such as ships, cargo types, ports, contractual agreements and more. For example, a subject-matter expert working for an oil company can visually explore the Graph to find all drilling-related incidents at specific depths by leveraging Maana’s machine learning classification algorithm that labels the data into categories like wells, people and activities.

The digital knowledge layer combined with Maana’s AI algorithms, help subject-matter experts rapidly create knowledge applications that extracts knowledge to optimize operations.
AI-Driven Applications

The Maana Knowledge Graph™ and AI algorithms enable your subject-matter experts to build hundreds of models at scale. Models built for one use case can be build-upon and re-used for other use cases.
Maana Knowledge Platform

Maana represents knowledge in the form of models. The Maana Knowledge Platform is used by experts in the organization to optimize assets and decisions points across the enterprise.

A Self-service and Highly-intuitive User Experience

With a self-service and highly-intuitive user experience, Maana enables your subject-matter experts to easily create a digital knowledge layer that demonstrates the relationships and interdependencies between various operational concepts.

Those concepts are key drivers of your operations. For example, a subject-matter expert working for an oil company can visually explore the Graph to find all drilling-related incidents at specific depths by leveraging Maana’s machine learning classification algorithm that labels the data into categories like wells, people and activities.

Maana Bots

Maana bots enable subject-matter experts to build AI-driven knowledge applications by automating many of the tasks of building machine learning models. Bots can perform automatic event-driven actions or notify other bots or users to take certain actions. Some Maana bots build knowledge by assisting users to create the graph and other bots help users derive value from knowledge.
Maana Bots that **Build Knowledge** and Create the Graph perform tasks that assist users in creating models. These capabilities bring knowledge into the graph by performing tasks such as:

- Detecting when new data becomes available
- Detecting and normalizing datatypes across data
- Discovering relationships between data entities and properties in the graph

Maana Bots that **Derive Value from Knowledge** perform tasks such as:

- Automate building and selecting the optimum machine learning models appropriate for the targeted problem and data
- Extracting and normalizing units of measurement from disparate data
- Reasoning over knowledge by consuming existing or new services that expose knowledge

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### Command Line Interface for Developers

A custom command line interface (CLI) provides interactive and scripted access to many convenient system actions such as schema management, data loading, querying and administration. The command line interface is easily extensible with custom plugins, making it easy for developers to add functionality.
Knowledge Applications

Maana enables subject-matter experts to build AI-driven knowledge applications that help employees make better decisions, faster. These knowledge applications are powered by models that provide recommendations into day-to-day operations to help employees optimize operations and decision flows.

Ad-Hoc Analytics

The Maana Portal enables users to query, visually explore and navigate the digital knowledge layer created by the Maana Computational Knowledge Graph. Maana can also be extended with popular data visualization software such as Tableau and Power BI for ad-hoc analytics.
Architecture

Maana’s micro-services architecture leverages GraphQL, which provides an increasingly popular interface to the Maana Computational Knowledge Graph. The architecture also uses Docker containerization for enhanced agility, portability and security making it easy to extend the platform with additional components.

This new architecture structures the development of applications as a collection of loosely coupled services that are lightweight protocols. It improves modularity and makes the application easier to understand, develop, test, and more resilient to architecture erosion. It also parallelizes development by enabling small autonomous teams to develop, deploy and scale their respective services independently.

Maana’s architecture makes it easy for developers to swap or add new microservices and provides the developer ecosystem with a wealth of established tools to help them in their development efforts.

Cloud Native

Maana’s platform is cloud native, allowing enterprises to deploy the platform on Microsoft Azure for greater enterprise security, scalability and control.

Learn More

To learn more about the Maana Knowledge Platform, please visit https://www.maana.io/knowledge-platform/ or email us at sales@maana.io