ALTAIR® GRAPH STUDIO™: SCALABLE KNOWLEDGE GRAPH TOOLSET

Altair® Graph Studio™ is a comprehensive data discovery and integration toolset for the enterprise. It enables managers and workers to ask any question across all enterprise data. Unlike other data discovery and integration tools, Graph Studio applies a semantic, graph-based data fabric layer over your data infrastructure, capturing the real-world meaning of all your data sources – structured and unstructured alike. Graph Studio then constructs your data into knowledge graphs at enterprise scale, eliminating data silos and enabling exciting new levels of on-demand business insight.

Make Sense of Your Data

Graph Studio identifies the location, content, and contextual business meaning for all your data. It exposes connections between datasets and enables rapid visual data exploration and discovery. With Graph Studio, data scientists and other data consumers in the business can build blended, analytics-ready datasets by iteratively cleansing, transforming, aligning, and linking data from multiple previously disconnected enterprise data platforms.

Graph Studio's unique use of semantics and a graph data model in easy-to-use tools makes it practical for virtually anyone in your organization – from novice business users to skilled data scientists. Citizen data scientists and business analysts can explore enterprise data with ad hoc and/or predefined questions, blend data across previously siloed platforms, and build bespoke, analytics-ready datasets in minutes – all without needing specialized skills or IT help.

Transform Raw Data into Analytics-Ready Data

Graph Studio transforms your original, raw data sources into fit-for-purpose, analytics-ready data in three primary steps:
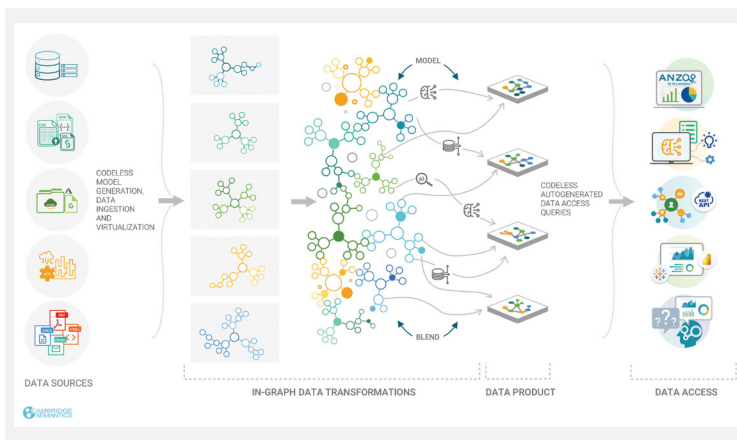
- **Select data sources:** Built-in data pipelines and automatically generated queries connect to structured/semi-structured data sources such as RDBMS, CSV, XML, and JSON. Natural language processing (NLP) is used to find and extract data from unstructured content, including PDFs, text files, and word processing files. Graph Studio translates newly onboarded data into resource description framework (RDF) format, cataloging the location, models, transformations, lineage, and security of all onboarded data.

- **Augment: Graph Studio** constructs knowledge graphs automatically from data sources you specify. It maps your data into standards-based semantic graph models based on business

> "We've helped countless organizations develop knowledge graph platforms to leverage organizationally scattered knowledge, where human and machine knowledge is blended into a consumable format for both human and machines to interpret and analyze."
>
> Sean Martin
> Chief Scientist, Data Analytics and IoT Development
> Altair

Altair acquired Cambridge Semantics in April 2024. **Click here to learn more.**

Graph Studio uses an in-memory MPP processing paradigm to execute queries against datasets, enabling agile data integration, transformation, and analytics at enterprise scale. It leverages standards, including W3C's RDF, OWL, SKOS, and SPARQL, to combine knowledge graphs of metadata and data which users can explore, transform, and analyze.

Graph Studio integrates with enterprise metadata, governance, security controls and policies, and includes APIs for lights-out integration into other processes.

meaning, data overlap, and pattern recognition. It captures the business meaning of all data in everyday language that anyone can understand.

Graph Studio models and manipulates massive datasets in seconds thanks to its breakthrough embedded graph database and in-memory massively parallel processing (MPP) query engine. Deploy your knowledge graphs to any cloud provider through Kubernetes, directly to on-prem servers, or a combination of both.

- **Access, analyze, and visually explore blended data with your preferred tools:** Graph Studio lets users easily pivot their data and ask entirely new ad hoc questions without re-engineering a rigid data schema. Access and query data within Graph Studio in the native graph format, or export data for use with external tools, including like R, Microsoft® PowerBI®, and popular business intelligence and data visualization programs using OData or REST endpoints.

Why Altair Knowledge Graphs?

Graph Studio lets you combine and connect data to provide accelerated insight and time to value:

- **MPP graph engine:** An embedded MPP graph engine transforms, connects, and analyzes large volumes of data in your knowledge graphs at unmatched speed.
- **Easy to use GUI:** Built-in best practice tools and workflows automatically complete core knowledge graph management tasks.
- **Onboarding, straight-to-memory data loading, and/or virtualization:** Flexible options to connect and query source systems.
- **Fast, agile data preparation and exploration:** Quickly and iteratively experiment with different data modeling and manipulation processes to optimize data products.
- **Semantic layer and ontology (W3C RDF standards):** Integrated data that's understandable and simple to use, fostering better interoperability.

Example Use Cases

Global industry-leading organizations rely on Graph Studio for modern data management that enables new, breakthrough business insights.
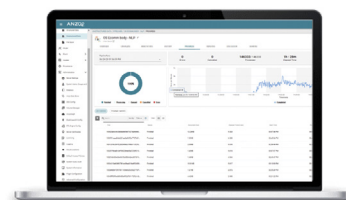
- **Customer 360:** Build comprehensive views of customer interactions across channels to optimize customer insight, offers, revenue, and service.
- **Resilient supply chain:** Monitor your digital supply chain twin in a unified platform to understand vulnerabilities, stress test your supply chain, and dynamically react to disruptions.
- **Accelerate innovation:** Link data related to specific compounds, materials, and/or products so existing research and knowledge can spur development.
- **Fraud detection:** Find relationships and patterns of activity across entities, accounts, and assets to identify anomalies and potential fraud signals.
- **Optimize clinical care:** Give providers integrated information about available treatments, medications, and research to improve patient care and outcomes.
- **Integrated view of complex business relationships:** Provide business users with a single view of the enterprise spanning siloed operating groups or merged entities.

"

Knowledge graphs, as a relatively mature technology, are expected to play an important role in the Generative AI domain, because they can be used to improve the performance of GenAI-enabled applications."

Gartner®
Emerging Tech Impact Radar Generative AI

As a complete toolset, Graph Studio lets users build a knowledge graph in days or weeks, rather than months.

ALTAIR in f ○ #ONLYFORWARD