

Semantic Partners

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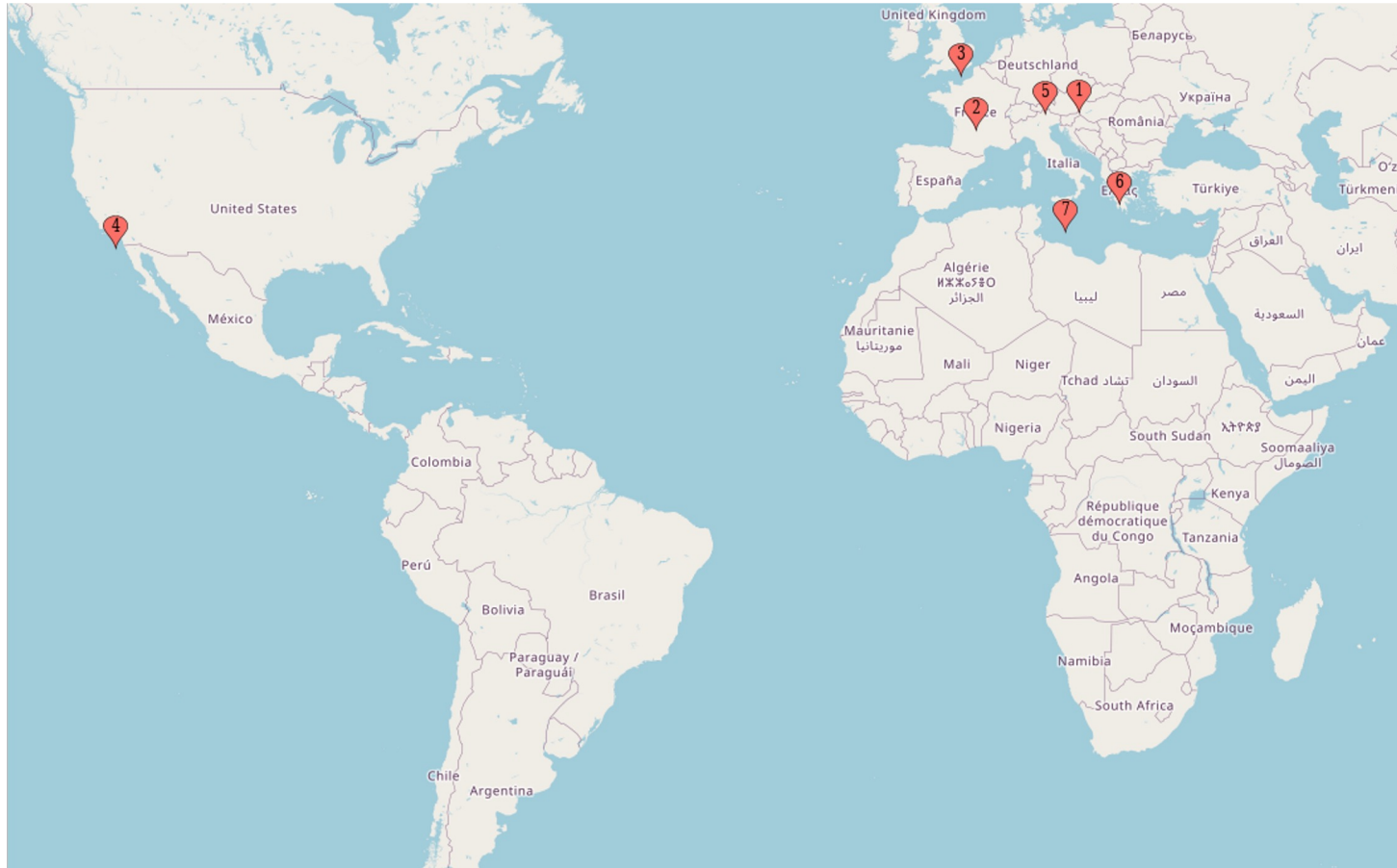
10th October 2023



Company Profile

- Founded, 2021, staff in 7 countries, speak 10 languages
- Semantic Graph/Ontology training for entry level and experienced
- Neutral Vendor Systems Integrator, exclusive focus on RDF based KG's
- Independent and self funded
- Expert distributed team of KG specialists, engineers and ontologists, combined experience of 100+ years hands on KG/engineering implementation.

Global team - 7 countries - 10 languages



Training

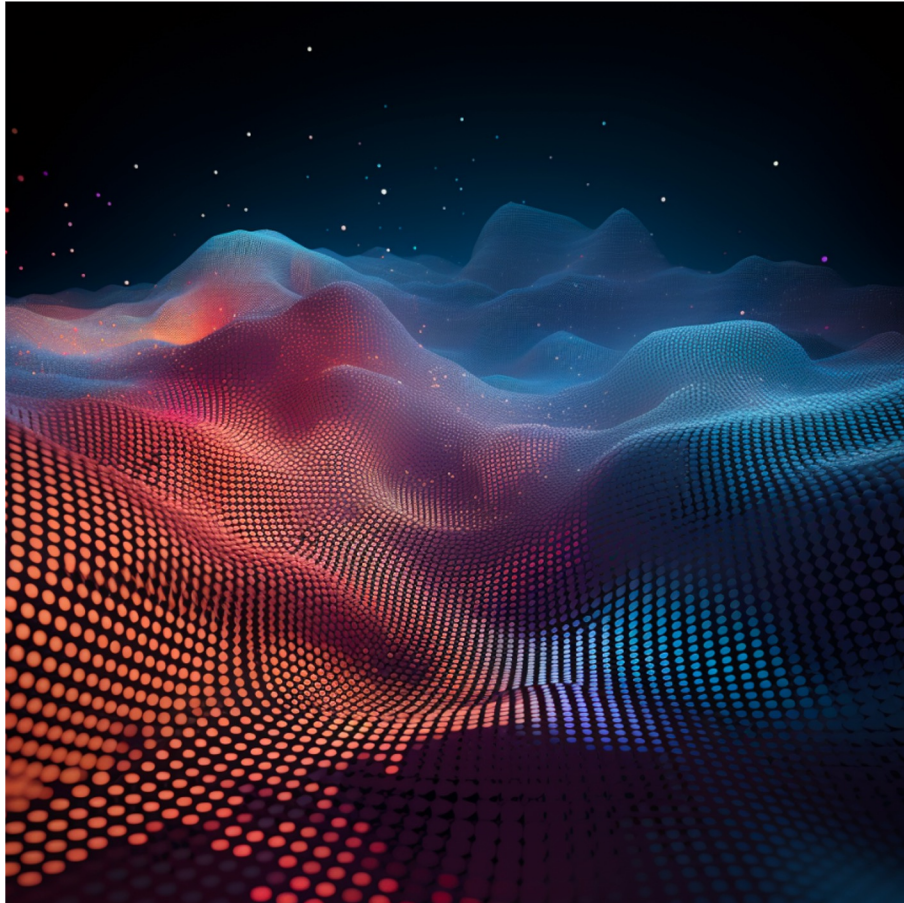




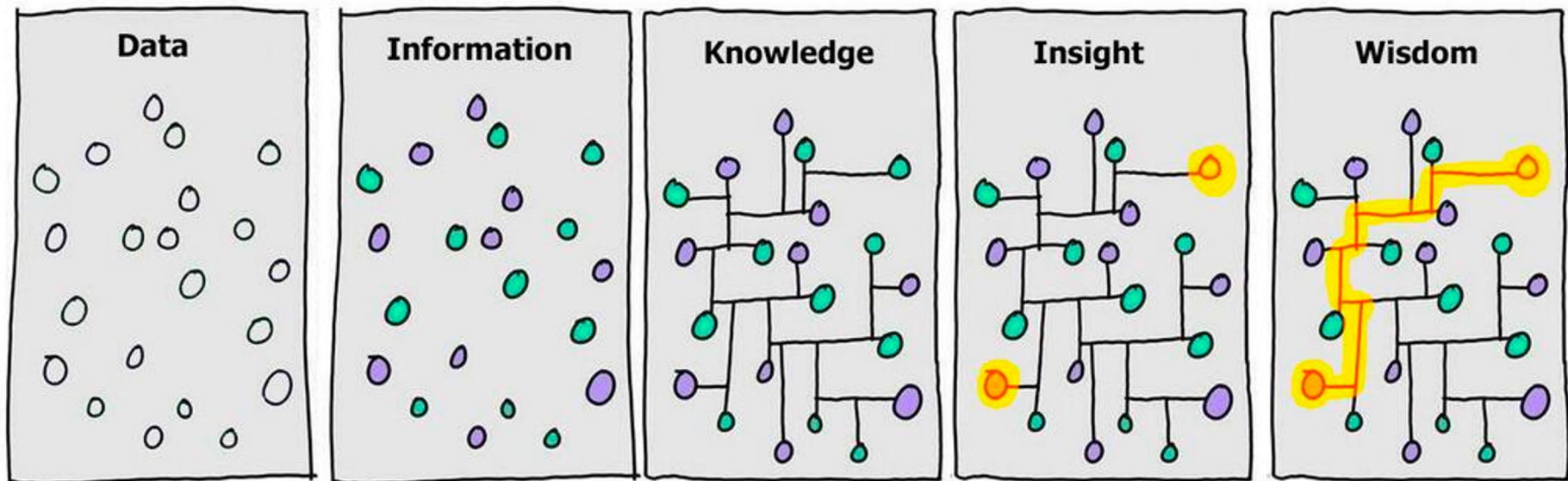
Current Use Cases/Clients

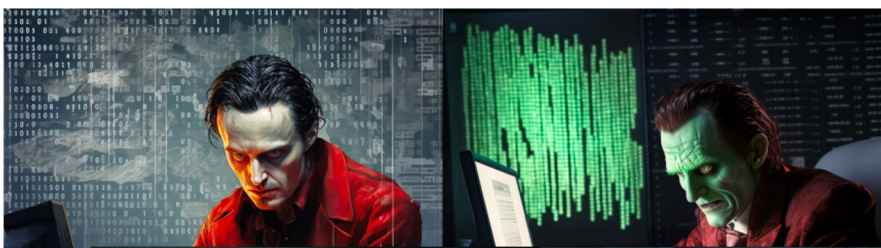
- Data Mesh - Global Bank
- Data Fabric - Pharmaceutical
- KG build - Life sciences
- KG build - Advanced hi tech engineering firm
- KG landscape readiness, Banks, Telco's, Pharma
- Ontology re-design and architecture - German Industrial giant
- Basic and Advanced Training Courses on Knowledge Graph for Large Engineering firm, French Public Body, UK Educational institution etc













Recent Ontology Use Case - Industrial engineering for renewable energy

- Convert UML-diagrams to OWL-based ontologies
- Propose changes to ontology process and governance
- Set out KPIs and competency questions to establish quality of ontologies
- Review de-facto ontology architecture
- Recommend formal ontology architecture



Semantic Data Layer for Data Harmonization allowing faster new product release



Business Goal: When a new manufacturing plant is bought online, the data engineering elements of the process (results, recipes, process parameters etc), can take a year or more. The need is to model this accurately to reduce the time

How?

- Introduce the semantic data layer allowing for harmonization of data from multiple different sources, in a fraction of the time
- Introduced a middle out ontology, with a unified look and feel
- Training in house team on new ways to think about data
- Graph has enabled them to move around a SQL based solution that's restricted them for years

Challenges: Internal wrangling over solution choices

Tech stack used - Material UI, React, Anzo Graph DB

The case for semantics

The earlier methods share the problem of lacking a precise meaning system. It is important that the meaning system is both human and computer oriented.

Clear and Precise	Semantic modeling can make the process of data collection and reporting more efficient. Being both human and computer readable, it reduces the need for manual data transformation and validation.
Interoperability	Semantic models facilitates data interoperability, making it easier to share and exchange data between different systems, organizations, and jurisdictions.
Flexibility	Semantic models are inherently flexible and can be easily extended or modified to accommodate new data requirements.
Standardization	Semantic modeling provides a standardized way to define and report data. Being machine and human readable, it simplifies the process of data collection and analysis, as data from different sources can be easily combined and compared.

Data Mesh Use Case: Metadata repository



Business Goal: To make it easy for data scientists to use the firm's datasets in their models

How?

- Shared dataset metadata model
- Extended the W3C DCAT standard
- Validation
- Usability scoring
- Prescribed schema on publishers

Challenges: Existing models, interoperability

Tech stack used - Inzo Graph DB, SPARQL.....

KG Use Case: Regulatory Reporting



Business Goal: Generate IFRS 10 reports accurately and be able to answer regulator's questions

How?

- Fast data integration and mapping
- Lineage through enriched metadata
- Immutable datasets
- Data quality enrichment
- Amendment via addition and attestation
- Historical view by storing intermediate datasets

Challenges: multiple versions of the truth

Tech stack used - Stardog.....