metaphacts

Boehringer Ingelheim

Knowledge Democratization

with an Enterprise Knowledge Graph at Boehringer Ingelheim

Empowering domain experts with a seamless experience over interconnected use case specific and use case agnostic knowledge graph applications

WWW.METAPHACTS.COM

THE CUSTOMER

Boehringer Ingelheim is working on breakthrough therapies that transform lives, today and for generations to come. As a leading research-driven biopharmaceutical company, the company creates value through innovation in areas of high unmet medical need. Founded in 1885 and family-owned ever since, Boehringer Ingelheim takes a long-term perspective. More than 52,000 employees serve over 130 markets in the three business areas, Human Pharma, Animal Health, and Biopharmaceutical Contract Manufacturing. In order to manage their constantly growing data and to gain new insights, Boehringer Ingelheim started the dataland program.

dataland – Main Goals

- Build a data-centric culture at Boehringer Ingelheim
- Implement technical systems needed to tackle data management challenges

THE CHALLENGES

Constant data growth

» New data is generated by new studies, new research and new analyses

Siloed data handling

» Data is handled differently and within their own systems at each stage in the drug development pipeline

Limited data reuse

» Each use case generates new data without data reuse

THE KNOWLEDGE GRAPH SOLUTION

Semantic model defined together with business

» The model captures domain-relevant concepts and relations Data references the semantic model directly

Explicit links with global identifiers

» Identifiers are globally unique and describe the data access protocol

Federation across data silos

» Multiple data silos and knowledge graphs can be accessed and interlinked using the SPARQL standard

Data scientists, data analysts, and researchers spend their time on bringing data together for data analysis or for answering specific business questions. Each use case basically generates new data without data reuse.

Maksim Kolchin,
Knowledge Graph Platform Lead,
Boehringer Ingelheim

Flexible and extensible data model

» The graph data model can be extended while improving data

» New data can be ingested before explicitly defining the semantic model

Data virtualization

» Tabular data outside of the knowledge graph can be mapped to the graph model

SEAMLESS EXPERIENCE FOR DOMAIN EXPERTS

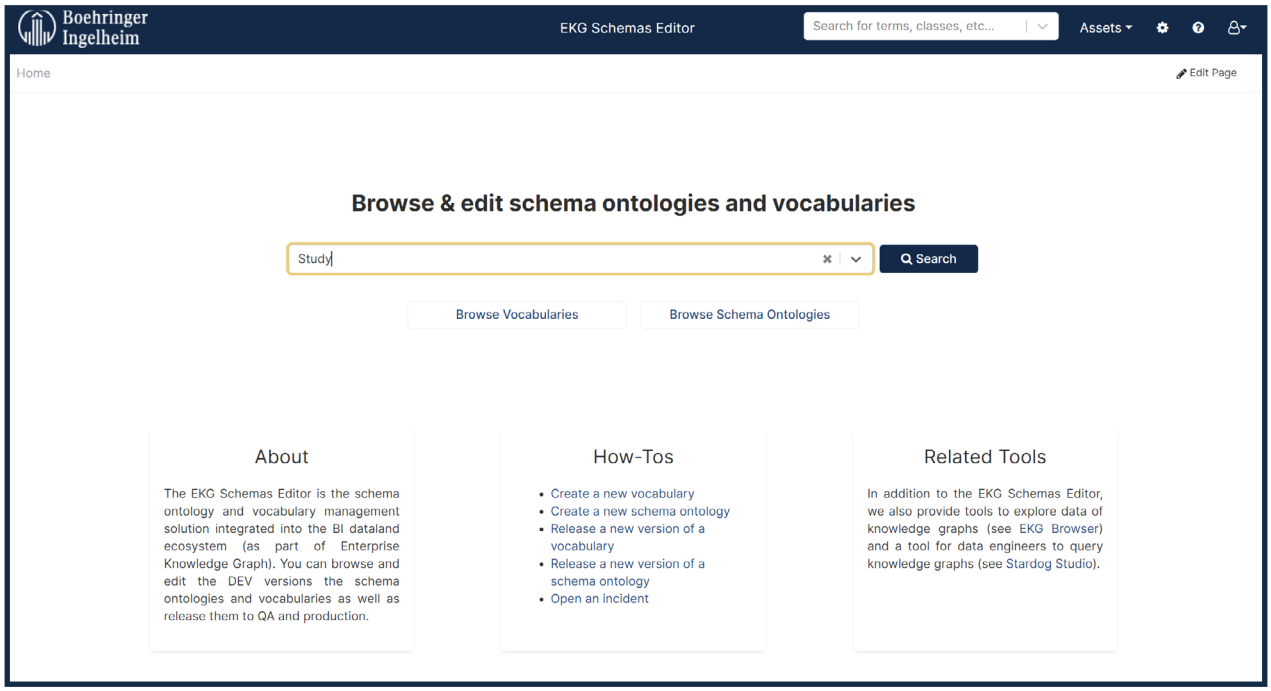
Collaborative modeling

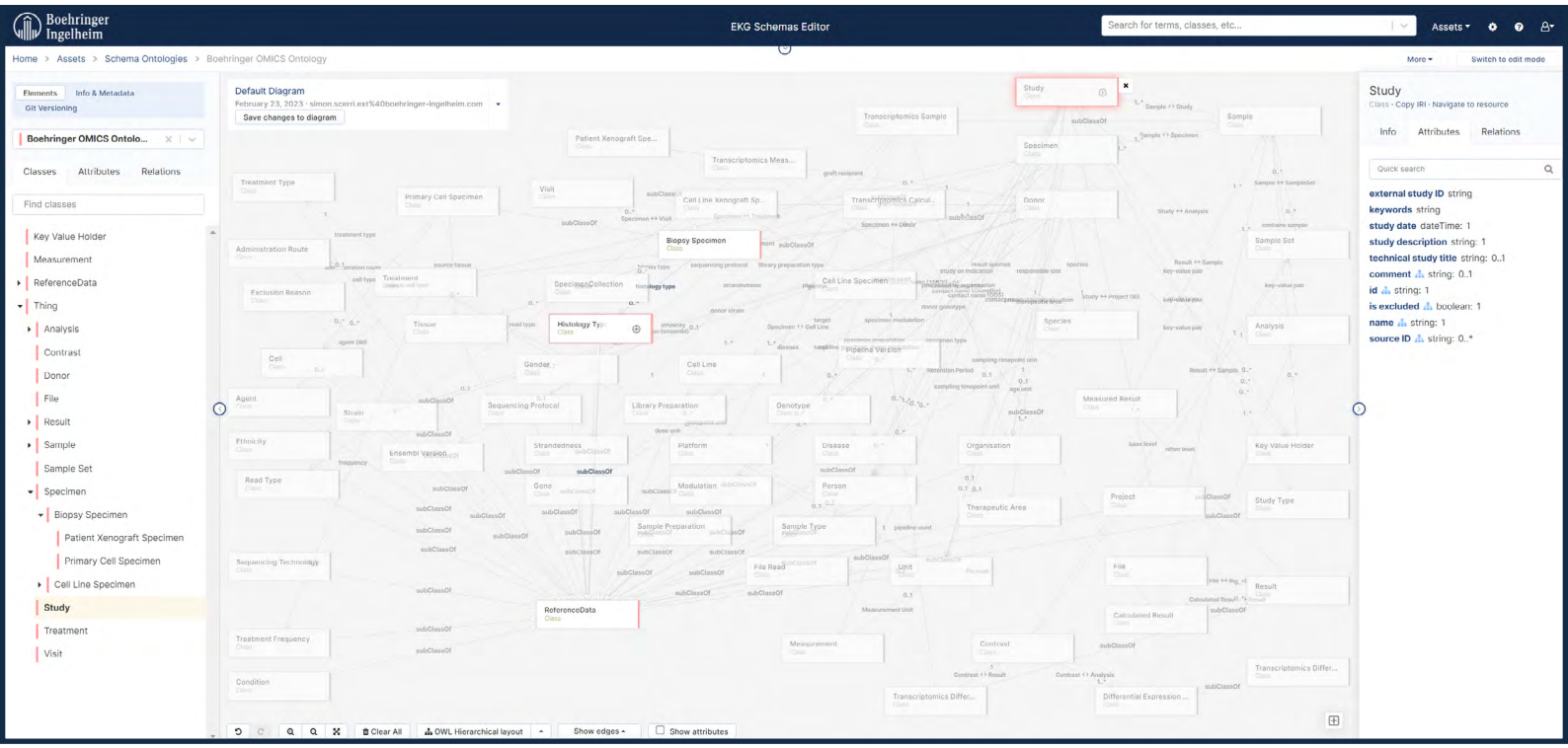
» metaphactory's visual ontology editor allows non-IT users to describe their domain by capturing domain-specific concepts and relations in the model

» Data stewards, domain experts & business users at Boehringer Ingelheim actively contribute to the knowledge modeling process

You need to bring business to [the ontology modeling] activity because IT folks lack the domain expertise, of course, and they cannot create this data model for you. Here we started using metaphactory's visual modeling interface where users can create ontologies and taxonomies in a collaborative way.

Maksim Kolchin,
Knowledge Graph Platform Lead,
Boehringer Ingelheim



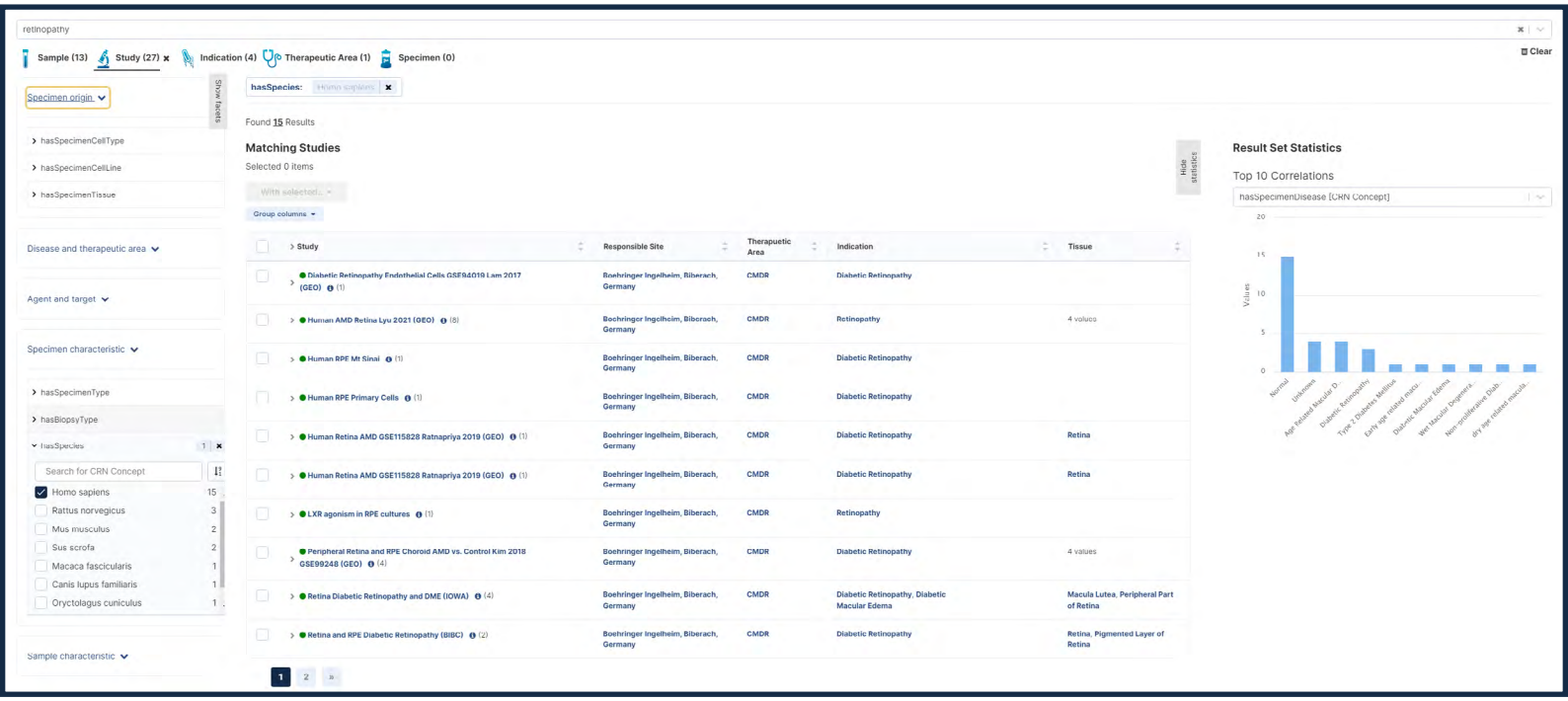


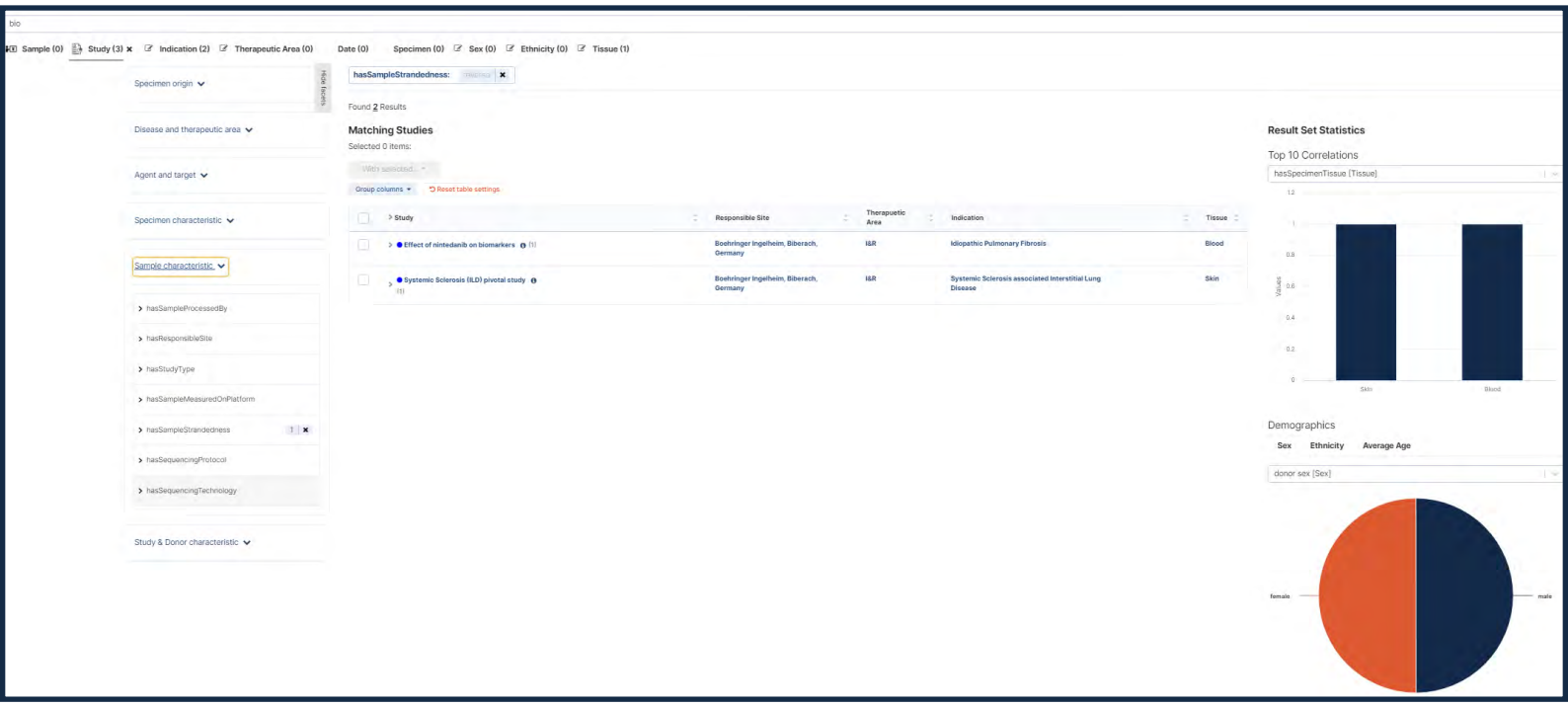
Linked data exploration

- metaphactory enables end users to access and consume data across heterogeneous data silos without boundaries
- The Boehringer Ingelheim Linked Data Explorer powered by metaphactory provides interactive knowledge discovery and search interfaces that support use case specific interaction patterns

Building custom applications with metaphactory for our use cases was easy without too much effort or resources required.

Maksim Kolchin,
Knowledge Graph Platform Lead,
Boehringer Ingelheim





Dynamic knowledge graph-powered discovery of statistical insights and data patterns showing metaphactory linked data exploration customised for two use-cases, clinical & preclinical studies.

Your notes:

Your notes:

THE ENTERPRISE KNOWLEDGE GRAPH

Example Use Cases

Omics data management
» Publishing of data from multiple laboratories to enable data scientists to reuse across business needs, use cases and analyses

IT system management
» Interlinking of data about tickets, incidents, IT systems, IT system leads and exploration of data in context

Document management
» Document exploration based on topic relevance

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>
> **Maksim Kolchin,**
> Knowledge Graph Platform Lead,
> Boehringer Ingelheim

KEY TAKEAWAYS

> *Technology cannot solve all issues and the knowledge graph approach also requires organizational changes.*
>
> **Maksim Kolchin,**
> Knowledge Graph Platform Lead,
> Boehringer Ingelheim

Domain experts and business users can learn to do modeling
» An ontologist can support the modeling process at first, but non-IT experts should be empowered to contribute and extend the model to fit their needs

Embracing cultural change is critical
New roles have been defined to support the knowledge graph initiatives
» Data domain owners – users who own and are accountable for domain-specific data
» Data stewards – users who collaborate with IT to integrate data

Use case agnostic applications allow data providers to focus on data creation and management

RESOURCES

Interview
with Maksim Kolchin, Knowledge Graph Platform Lead, Boehringer Ingelheim
» https://bit.ly/3ewS5dJ

Demo
Open Knowledge Graphs
» https://bit.ly/3RWtE79

Get started
Get started with metaphactory for free and start building your Knowledge Graph today!
» https://bit.ly/3Vrdp52

GET IN TOUCH

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