

# ENGINE B



# Purpose

A simple aim to address ongoing market issues and create a level playing field for all firms, large and small.

## Current state

Regulators are pushing to open the market to greater competition to increase quality of service

Key standards (OECD, AICPA) to create consistency have not been widely adopted and do not cover unstructured data

Emergence of next generation technologies puts significant pressure on data architectures and engineering

Clients have too many data sources and systems with conflicting definitions and standards

Data practices create competition across the sector due to different interpretations and contractual relationships

The industry has to change to provide digitised services to clients

Real time access to client data is the panacea for the industry

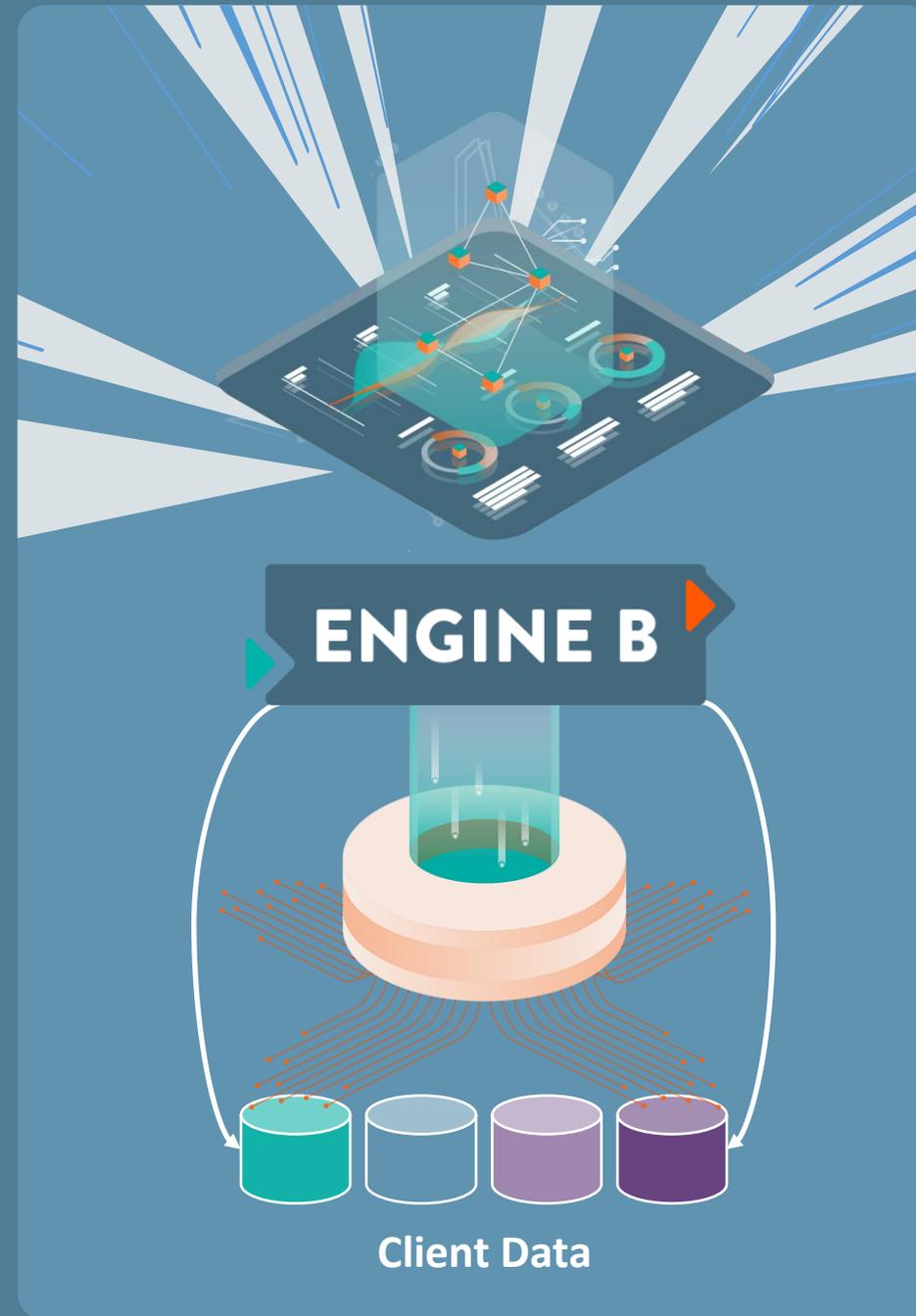


# Solution

## The principle

Firms across the entire industry agree to support and implement:

- One set of data models
- That are Open Source
- And available to all
- Which will capture client information into an intelligent data platform



## The result

A single solution which:

- Provides a common data access platform
- Can be installed in every client environment
- Is underpinned by dynamic Knowledge Graphs
- Allows access to and interrogation of structured and unstructured data

# Collaboration



Working hand in hand with Microsoft, supported by the ICAEW, firms across the industry and academic institutions, Engine B is building both the platform and unique Knowledge Graphs, a ground breaking intellectual property for the industry.

This collaborative innovation includes Microsoft, key industry players, end clients, new start-ups, regulators and investors.

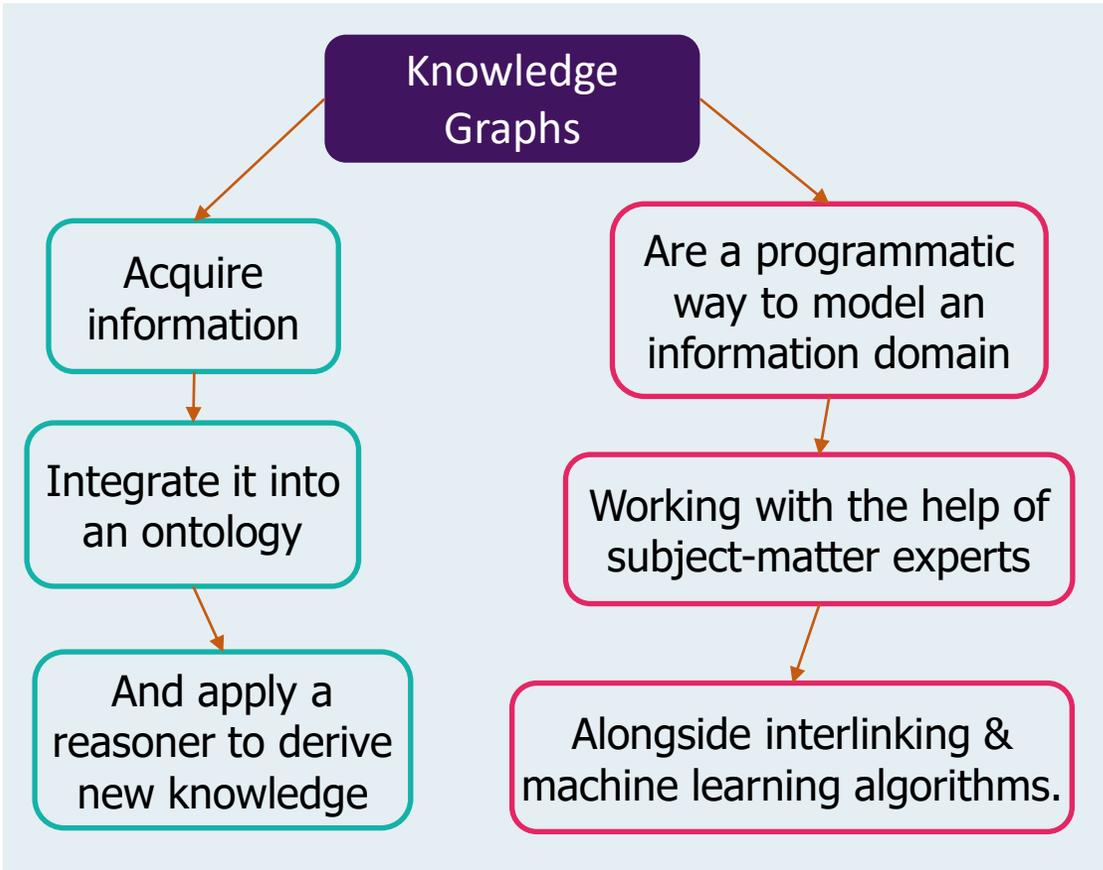
Bringing contextual knowledge into the data layer and having only one revenue model that doesn't compete with professional services players allows this diverse group of players to work together.

Engine B's technology solution is narrow but complex. The impact on many industries will be transformative. Current solutions are constricted, insecure and have business models that seek profit from client data.

Engine B is purpose led. Working collaboratively and openly ensures clients feel safe that they experience market leading innovation and the highest level of service, with zero risk. Engine B will not compete with providers, it will act as an enabler to allow them and their clients to transform

# How Engine B works

To activate the data models, the core focus of our innovation is the development of **Knowledge Graphs**. They allow data to be accessed and unlocked from client systems and translated into the Open Source data models.



## It's a graph

Relationships within the Knowledge Graph are first-class citizens and the links between data add huge value, as well as flexibility.

## It's semantic

Also considered self-descriptive, a Knowledge Graph has a natural language-like representation, making it easy to query and explore.

## It's smart

A Knowledge Graph can uncover hidden data and relationships that are too complex for human cognition, and being a graph means you can apply various graph-computing techniques and algorithms.

## It's alive

A Knowledge Graph can store information in a form that is easy to reuse.

## Where we experience Knowledge Graphs already:

Everyday instances of the use of Knowledge Graphs include Google, Bing, Netflix and the Intelligence Community.

## A Real Estate Knowledge Graph

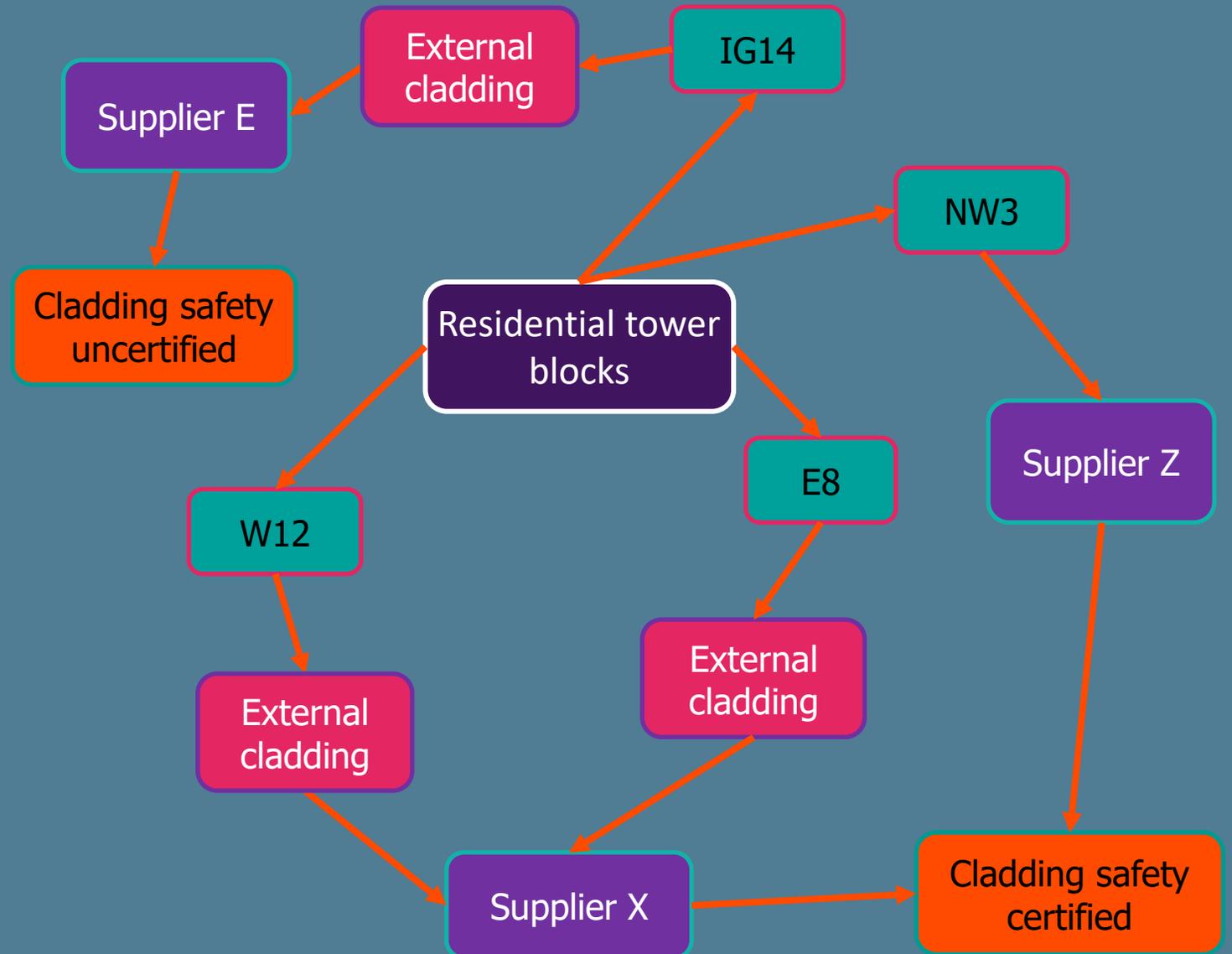
could analyse building standards across different construction projects.

Entering key criteria - such as location, materials used, date of construction and suppliers - into the Knowledge Graph interface, will automate the creation of the Graph against that criteria.

Accessing and manipulating the data in the Knowledge Graph can support the interrogation of information stored in the platform, auditing construction processes and potentially reducing risk.

[See it in action.](#)

# Knowledge Graphs in practice



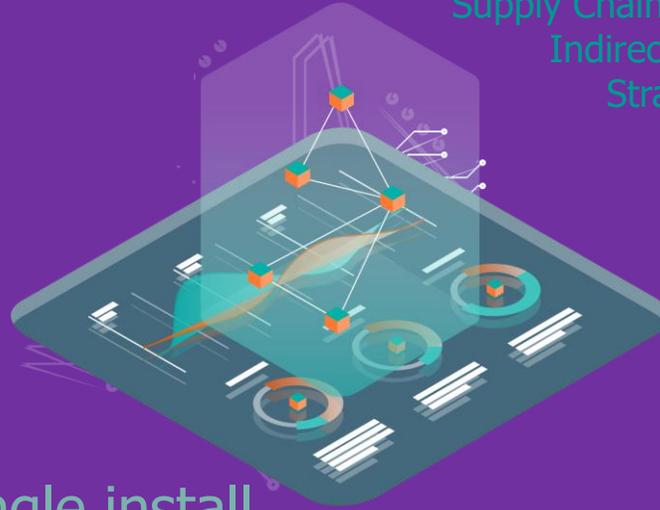
# Why Engine B?

## Now

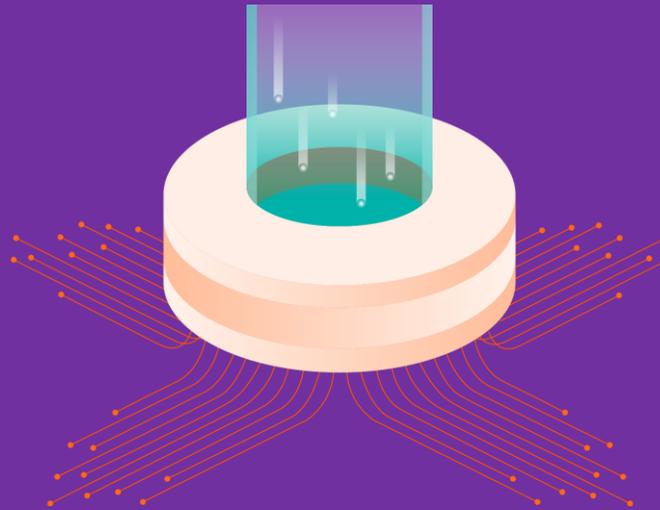
- Engine B's data model is becoming part of Microsoft's Open Source Data Model
- Engine B is working with the AICPA on subsequent API definitions to create an open standard for client data access. Graph QL will also be ensured.
- As other audit firms roll out the data platform, competing firms non-audit services can leverage the platform in the same client
- Leverage Industry built Knowledge Graphs or design your own to land on Engine B's platform.
- Engine B will never supply services above the platform

## Bespoke Knowledge Graphs

Supply Chain Risk  
Indirect Tax  
Strategy



Single install  
yet multiple service lines



Always On Services

## Future

- Engine B Knowledge Graphs and Common Data Model will also enable the transformation of:
  - The Enterprise Performance Management space
  - Tax services which can now have direct access to client systems without costly installs
  - Benchmarking against industry standard data models and graphs
  - Consulting with no long lead times for collecting and cleaning data
  - Due Diligence – with client permission this can now be done via Engine B directly from source systems. No more team rooms

# The benefits

## Individual firms will benefit...

- Accelerating their own transformation without the need to focus on access to client data
- Leveraging industry standard knowledge graphs will allow firms to build D&A tools for multiple clients simultaneously

## The industry will benefit...

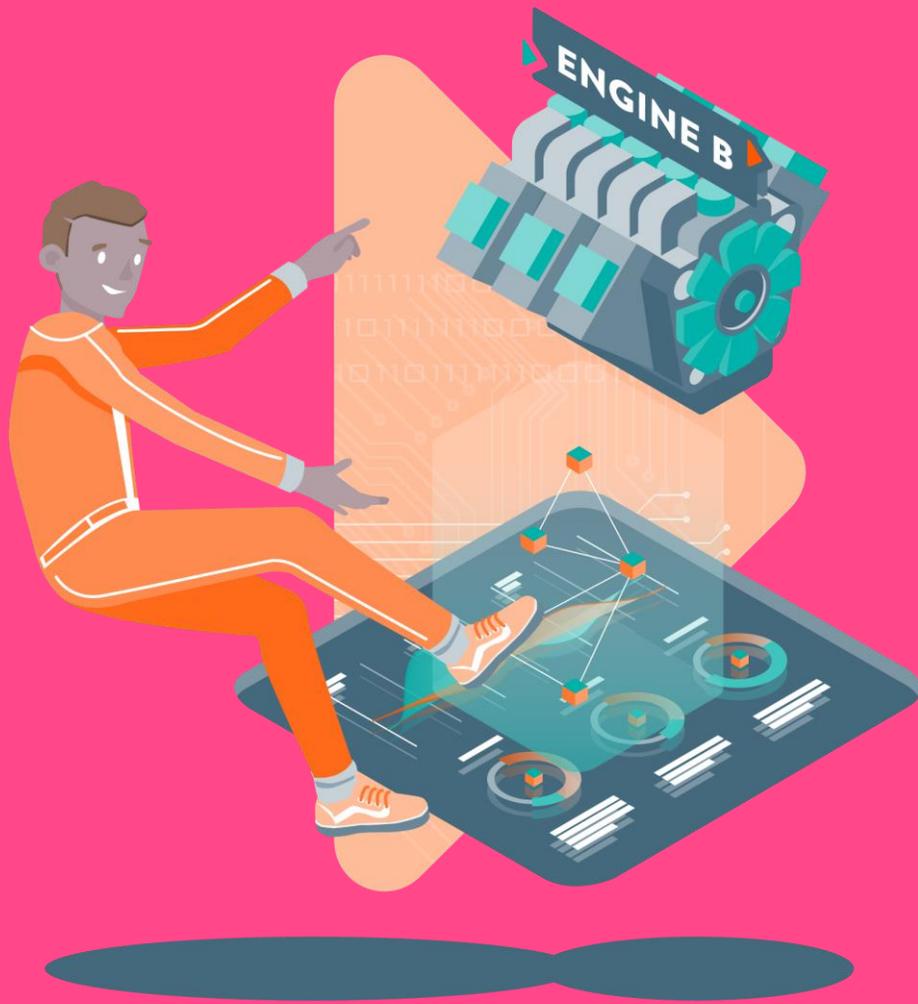
- Allow current players to digitise as fast as threatened new entrants
- Demonstrate proactive response to regulation and market review

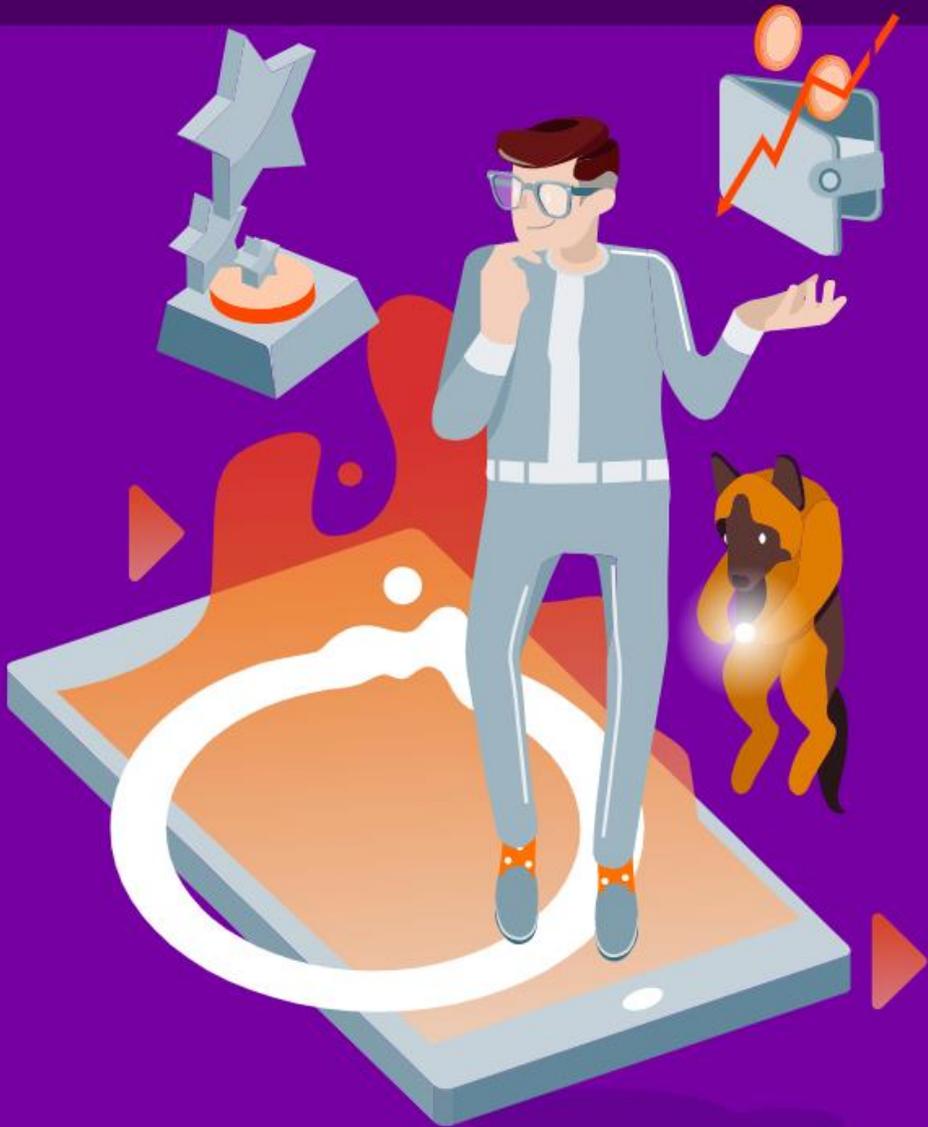
## Tech partners to the industry will benefit...

- Technology partners don't have to understand client systems and can focus on value-add IP
- This will create the Fin Tech equivalent for professional services

## Clients will benefit...

- Greater innovation and speed of delivery of new, digitally delivered solutions
- Greater control of their own data and who is using it
- Opportunity to use KGs to improve enterprise performance management





# Mission

## Data

Engine B is creating an open data standard - and access mechanism - for structured and unstructured data. This data solution will be primarily for the Professional Services industry, although the impact will be far reaching.

## Open

Engine B eliminates the need for firms to invest in data extraction. While the ability to access client data will allow them to focus efforts on delivering innovation to clients.

Engine B's open architecture will allow new entrants to come into the marketplace, pushing the boundaries and challenging how services have traditionally been delivered.

## Access

Professional Services providers will have access to hundreds of different types of client data systems without the need for complex extraction systems and integration programs.

Providers will reduce the cost to deliver services by installing Engine B as the platform for data orchestration in client environments.

# Building industry assets for all

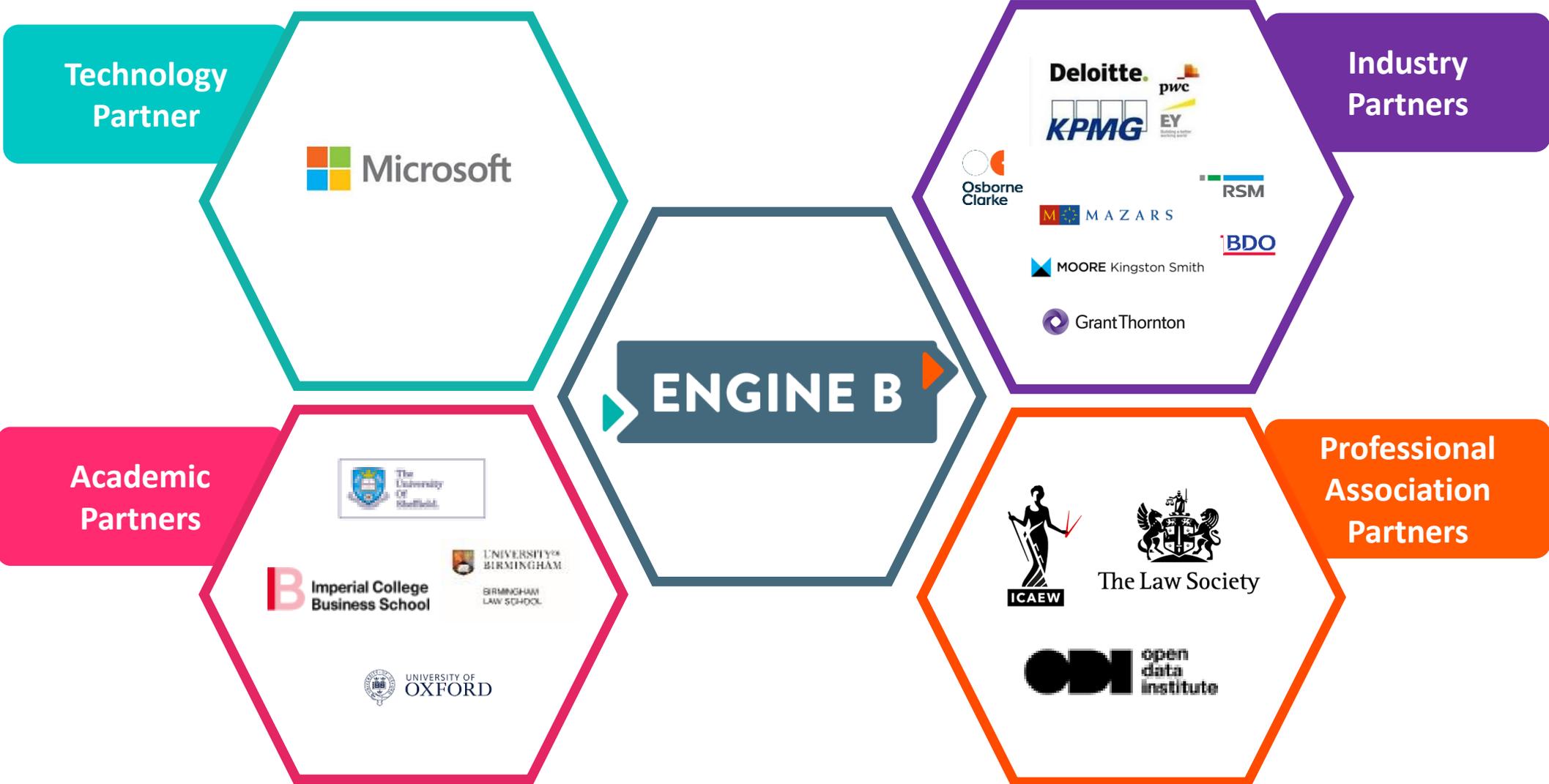
Engine B is committed to opensource (using the MIT License).

The majority of the assets that are being developed allow firms to accelerate their own transformation programmes. Engine B is building Knowledge Graphs into its intelligent data access platform that will dramatically improve D&A in Audit across structured and unstructured data.

	Opensource/ License?	Status	Technology	Academics	Prof Services Firms
<b>Audit Common Data Model</b>	Opensource	Draft complete in QA	Multi-cloud		Input and QA review
<b>Tax Common Data Model</b>	Opensource	OECD model review	Multi-cloud		Input and QA review
<b>Legal Common Data Model</b>	Opensource	Legal stream starts 26/2/20	Multi-cloud		Input and QA review
<b>M&amp;A Common Data Model</b>	Opensource	90% overlap with above	Multi-cloud		Input and QA review
<b>Property Knowledge Graph</b>	License	Draft complete in QA	MS Azure	Key leadership	Input
<b>Supply Chain Knowledge Graph</b>	License	Due Dec 2020	MS Azure	Key leadership	Input
<b>Other Graphs</b>	License	Early 2021			
<b>Tech Strategy</b>	Opensource	Version 2			
<b>ADF Templates for SAP etc</b>	License	MVP work	MS Azure		Input from ETL teams
<b>Ecosystems</b>	Mixed	UK - 2020 USA – early 2021	Multi-cloud	Birmingham Eco – opening 2020 Oxford Uni Eco – late 2020	Use Cases identified within Professional Service firms will be fed to the Ecosystem to deliver

# Consortium partners

Engine B has forged relationships with industry and academic partners critical to the success of our consortium.



# Technology strategy

The technology layers which make up Engine B

Microsoft's Azure design implementation for Engine B will work for all organisations regardless of size.

**UI, POWERED APPS, LOW CODE**

**ENGINE B SERVICES**

**AZURE PLATFORM**



**AKS**



**Kubernete  
s**



**DATA SERVICES - INTEGRATIONS**

**AZURE DATA FACTORY**

## Why Azure?

- An ever-expanding set of cloud computing services Azure meets business challenges with continuous innovation
- Azure gives the freedom to Engine B to build, manage, and deploy applications on a massive, global network using preferred tools and frameworks
- Azure has security built from the ground up—backed by a team of experts and proactive, industry-leading compliance that's trusted by enterprises, governments and start ups alike

**Azure Stack**

# Current position - logical view

## DATA INGESTION

Data from source systems are ingested into landing db.

### Data connectors and Templates

 **Audit Data source + template from Xero**

## CDM DATA MAPPING

Data inputs are mapped to CDM formats for relevant industries.

### Map to CDM Data Model for industry

 **Audit CDM Lite JSON template**

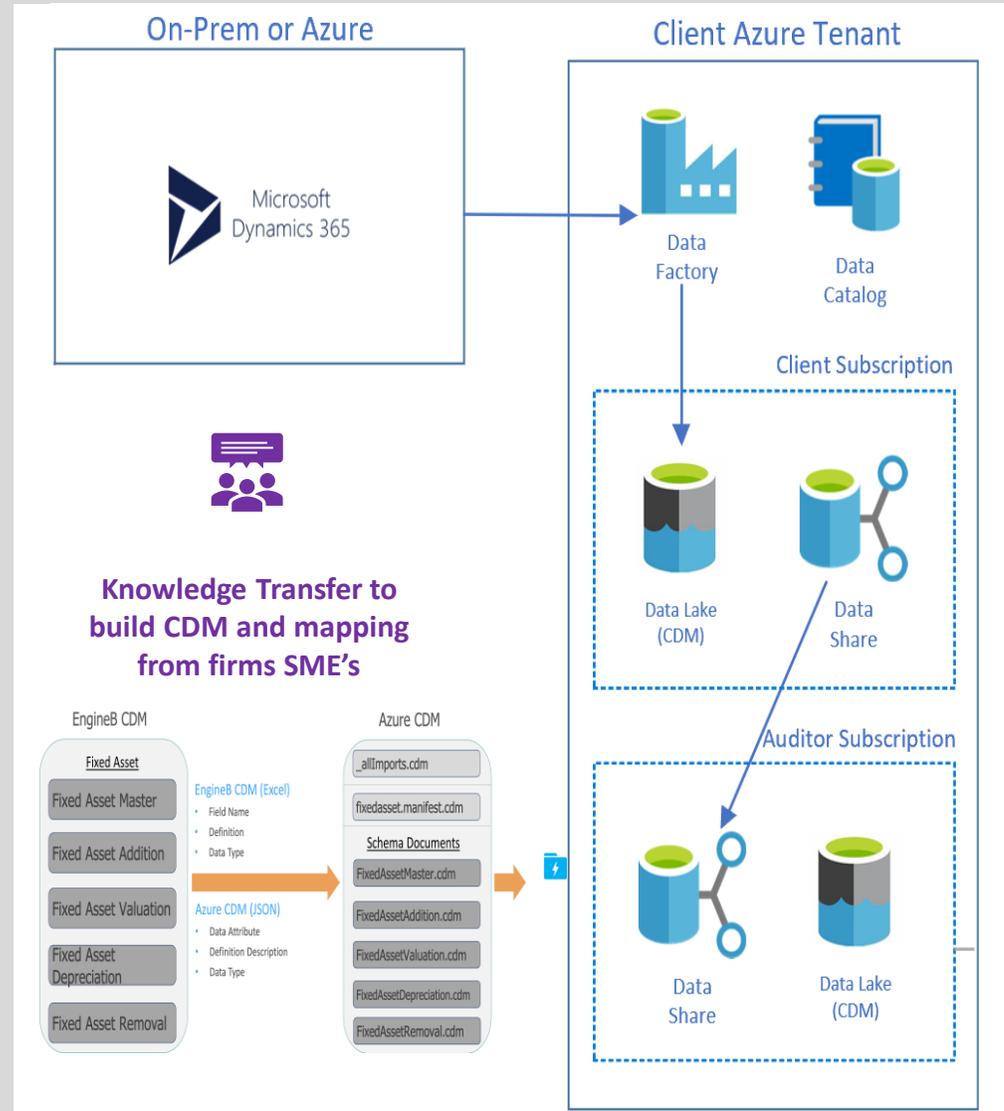
## CDM DATA LAKE

Data is available data lake storage

Data sharing and lineage

**Available for use in KG or DB**

 **Audit Data in CDM format for Grakn upload**



 **Custom apps**

## UI INTERFACES

EngineB Dashboard /Admin control

Low Code Apps

Powered Apps

 **Audit Lite KG**



## KNOWLEDGE GRAPHS

Graph visualizations to offer complex business insights into relationships of data

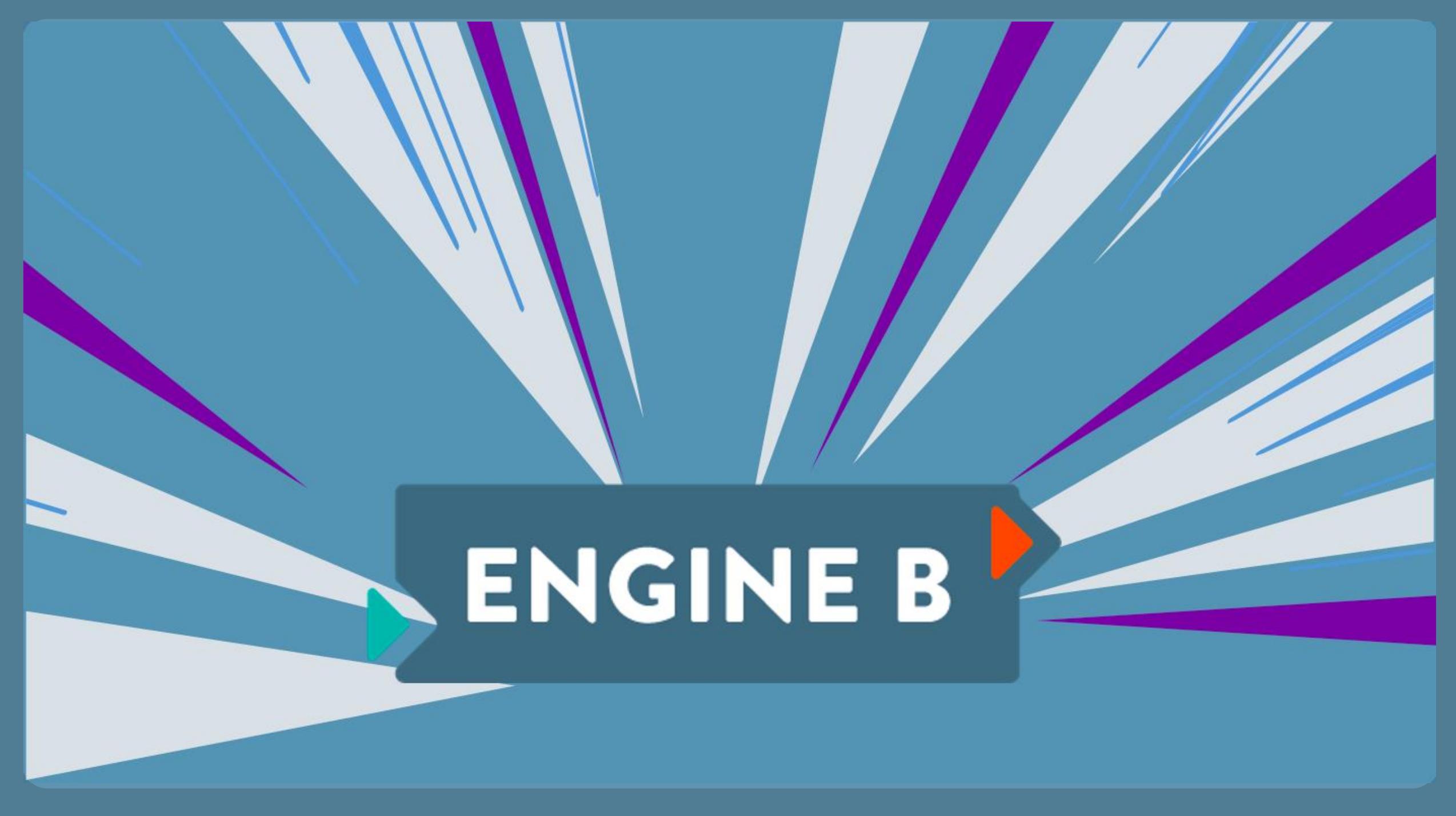


## DATA SERVICES

Graph QL and Data APIs for integration

# Appendix





**ENGINE B**