

A LAW FIRM'S JOURNEY WITH GRAPHS

From hackathon to a Sovereign System of Intelligence

How a law firm learned to build on a graph and learned to let its lawyers build too.

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(:Matter)-[:HAS_DOCUMENT]->(:Document)-[:CONTAINS]->(:Clause)
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Global Firm. 26 offices. Amazingly Talented Lawyers



Herbert Smith Freehills Kramer

6,000+

people

2,700

lawyers

26

offices, across multiple regions



Leadership's ask

Same quality everywhere. AI as the enabler, not the end state.



My role

Strategy & Emerging Tech Team: The bridge between the lawyers and the engineers.

Expertise is the product. The raw material is confidential. The people who hold it are the busiest in the building.

Expertise: How to Keep our Intelligence in-house



Design to prevent IP leaking into SaaS tools

Know-how copied into vendor tools: fragmented workflows and intelligence, not portable, outside our controlled environment.



Confidentiality is not negotiable

Walls, client terms, residency across jurisdictions. Changes constant.

How to keep the SSOI updated in near-real-time



Knowledge trapped in matters and systems

Years of judgement difficult to reach.

Models come and go; nothing compounds.



Every idea re-argues the platform

Risk, privacy, security and AI governance important

How to standardise building the knowledge layer and AI solutions

THE QUESTION

Can a law firm put a graph and generative AI side by side, keep its knowledge its own, and keep every promise to every client?

Yes, if sovereignty is designed in from the start.

The Sovereign System of Intelligence



One Intelligence Layer Graph of the firm. Governed AI on top. Built with the lawyers who use it.



An Intelligence Layer of the firm's work

matters · documents · clauses · decisions · people · one ontology



AI behind governed doors

approved per use case · one gateway · use MCP servers · walls enforced & checked by design



Prototype to production

lawyers build in a lab · production rebuilt from the prototype · platform approved once

SOVEREIGN MEANS

Data & intelligence stays within the firm

*Dependant on client restrictions
Regional constraints*

Every answer shows its source

the graph cites its nodes

Entitlements decide, every time

walls checked on every query

Approved once, extended by exception

new apps describe only the delta

Speed first with public data, Safety second, Scale last



01

Hackathons

Prove the idea in days

public or synthetic data · a few days to a clickable demo



02

Innovation Labs

A lab for every level of risk

01 public · 02 obfuscated · 03 real, production controls



03

Sovereign System of Intelligence

One graph, many applications

built with its first use case · approved once

3

Innovation Labs, one per level of risk

1

federated firm intelligence layer (graph)

4

use cases in build

2

AI profiles: AI harness the builder and the query interface

Applications reach the graph through one door



Knowledge graph · Neo4j

one semantic layer · One upper ontology · Multiple knowledge graphs · multiple regions dependant on client restrictions



AI layer · AI Harness

Business Analyst · Data Architect & Modeller · Master Ontologist · Data Transformation & Data Tagging Skills



Delivery

containers · code · pipelines · rebuilt for production, never promoted



Trust

Information Barriers and Intapp walls as an Entitlement Graph ·

Why a graph? Lawyers think in relationships, so every answer can show its working.

Four questions, one platform



Early case assessment

“What happened, who was involved, and what actually matters?”

our first application; it shaped the platform



Legal due diligence

“What is in this data that could hurt the deal?”

the lawyer’s prototype became the specification



Decision analysis

“What did we decide, why, and what did it depend on?”

a graph of reasoning you can revisit



Pricing and finance intelligence

“What does this kind of matter really cost?”

finance asks in plain English, read-only

Six decisions that keep the promise



Data stays within the firm

Regional graphs/dbs · every exception recorded



One database per region or use case

composite joins only by approval · strictest client sets the bar



Entitlements are a graph too

checked on every query · a wall goes up tonight, tomorrow's answer changes



Forget on demand

a client's purge is a query, not a project



Models approved per use case

our own cloud · zero retention · enforced at the gateway



Prototype freely, rebuild carefully

Lab 01 → pipelines → production

What we learned



Start with a use case, not a platform.



Let the lawyers build.



The ontology is the product.



Govern by design.



What's next

- Entitlement graph behind everything
- More domains, each its own database
- Agentic workflows, same guardrails
- An open door for other teams

“Sovereign doesn’t mean closed. It means knowing where every answer came from.”

The judgement stays ours. It never left the building.