

# AI-Powered Contract Onboarding Experience

Humans in the Loop, Agents in the Flow

# 1. Problem

When a new enterprise client is onboarded,  
their contracts arrive in chaos.

**And the chaos  
is human**

**48%** Supplier names differ.

**34%** Duplicates documents piles up

**56%** Documents hierarchy mismatched

**When structure  
breaks, business  
feels it.**

- Weeks of delay = **revenue delay**
- Incorrect hierarchy = **risk roll-up failure**
- Manual cleanup = **legal cost inflation**

**What looks like document  
mess quietly becomes  
business risk.**

So we asked:

**Is this an AI  
accuracy problem?**

## 2. Discovery

We believed improving extraction precision would fix onboarding.

So we tested that assumption.

## Evaluation showed the real problem.

Client	Average of Number of documents	Sum of Number of documents	Count of Counterparty	Accuracy of Document Type	Accuracy of PC Linkages
BNYM	67	134	2	88%	 <a href="#">93%</a>
DXC	27	159	6	90%	 <a href="#">86%</a>
Morgan Stanley	6	30	5	100%	 <a href="#">90%</a>
Omers	8	23	3	100%	 <a href="#">95%</a>

We learned

**The real problem wasn't extraction it was ambiguity.**

- It's unclear who exactly is bound
- It's unclear which version governs
- It's unclear how documents relate

**That  
changed our  
direction.**

Even when extraction is correct,

**lawyers still need to interpret relationships, context, and hierarchy.**

That's when we reframed the problem.

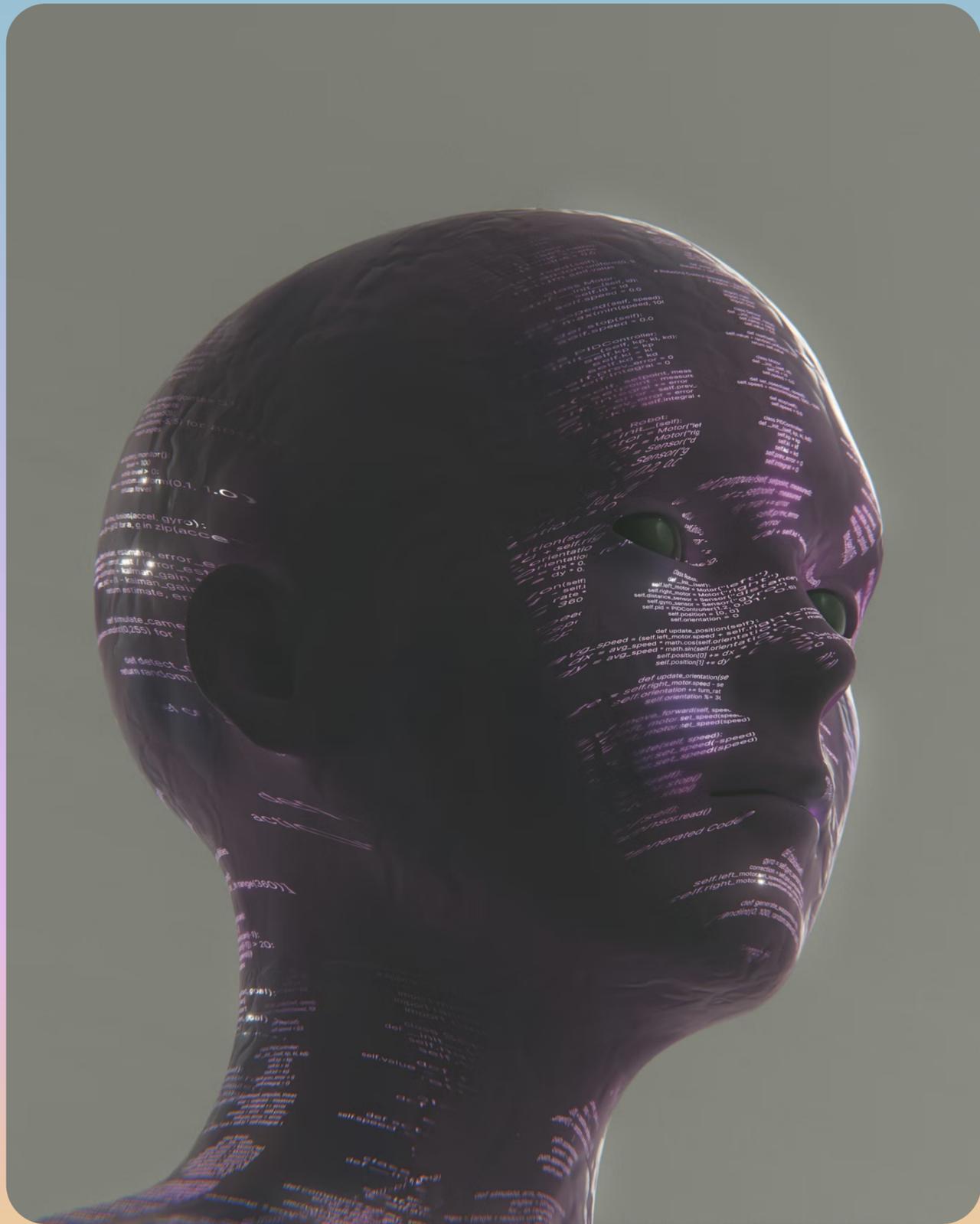
**Not better extraction.**

**But assistance in interpretation.**

## **3. Judgment**

Legal review is not about prediction.

It's about certainty.



So the system must:

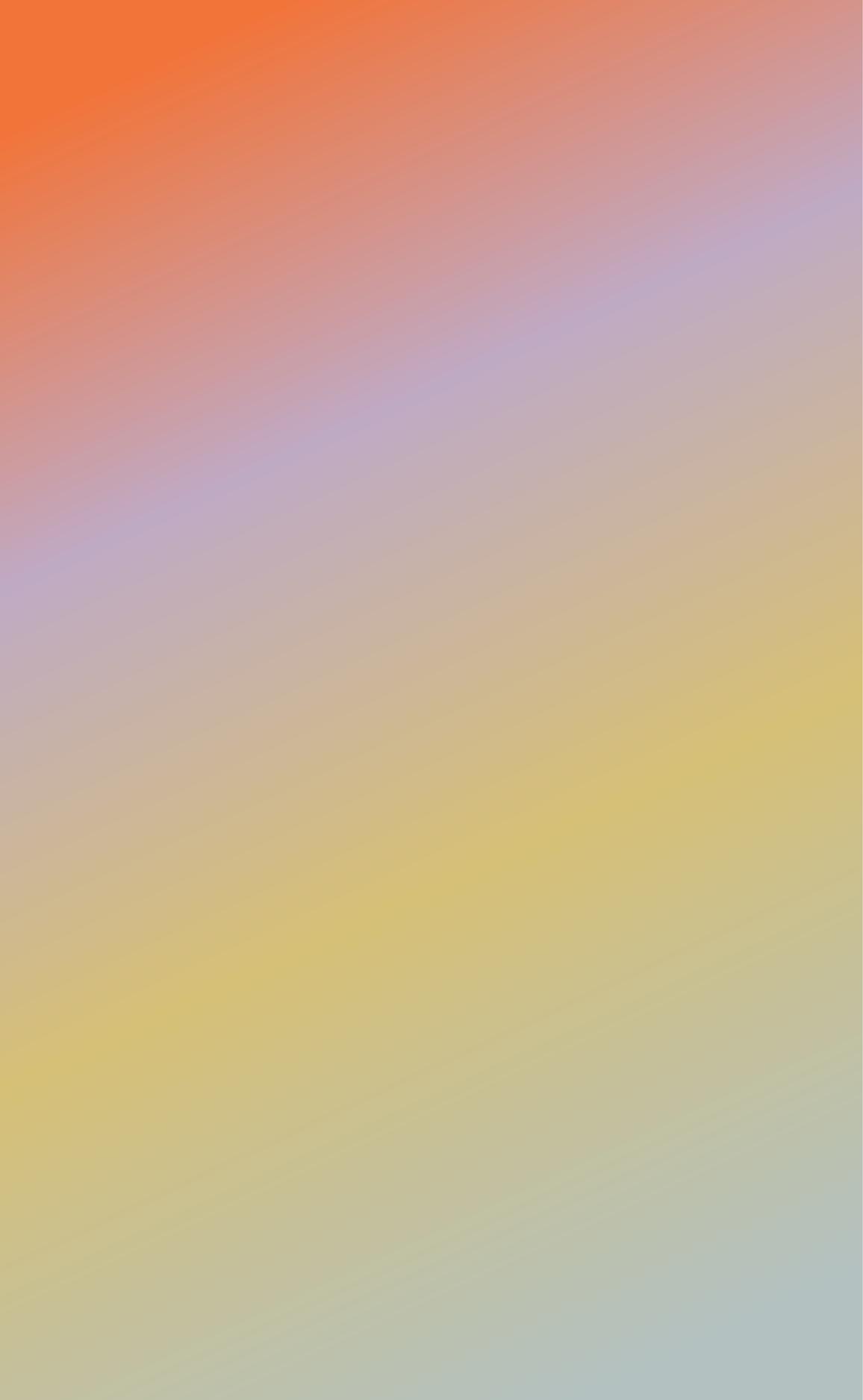
- Explain
- Show relationships
- Surface sources

AI can suggest. Lawyers must decide.

If confidence matters  
more than accuracy,  
then the system must  
make its reasoning visible

AI suggestions must be:

- Traceable
- Auditable
- Correctable



To design that trust and visibility,

**I studied how lawyers  
actually review contracts.**

# Lawyers don't review everything at once.

They move in order:

- Who is this?
- What is it linked to?
- Can I trust it?

Identify

**Who is this?**

Validate

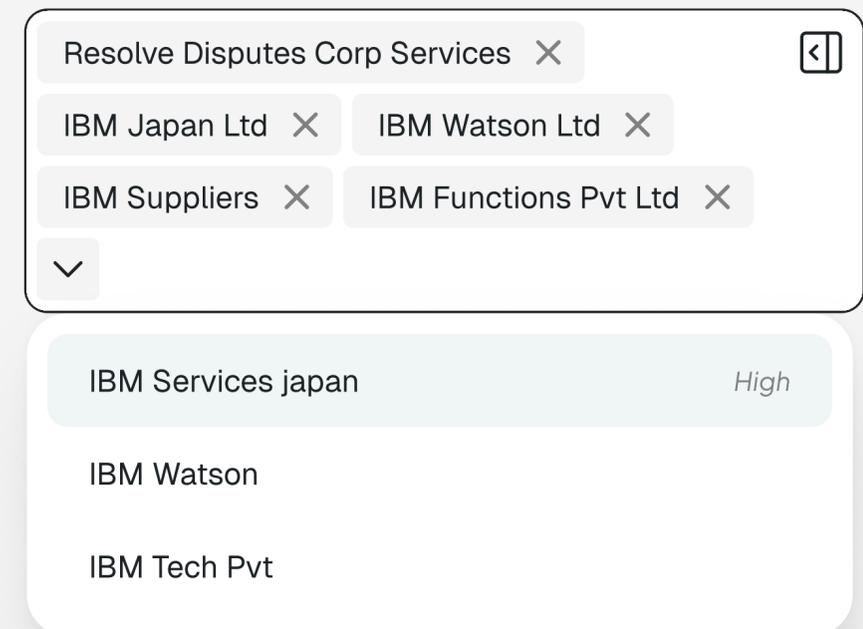
**What's connected to it?**

Verify

**Can I trust this interpretation?**

# So the system must surface context step by step

- Helping when things are clear,
- Stepping back when judgment is needed.



# Every AI output shows:

- Why it made that decision
- Where the information came from

Trust increases when users can verify the source.

## Counterparty



Resolve Disputes Corp

### Reasoning

The agreement identifies Resolve Disputes Corp as a signing party. The obligations and terms apply to both parties from the effective date, confirming this entity as the counterparty.

### View More

#### Referenced from [page - 1](#)

This Agreement is entered into between Resolve Disputes Corp and ABC Services Ltd, collectively referred to as the 'Parties'.

“Resolve Disputes Corp is responsible for delivering the services outlined in this Agreement.

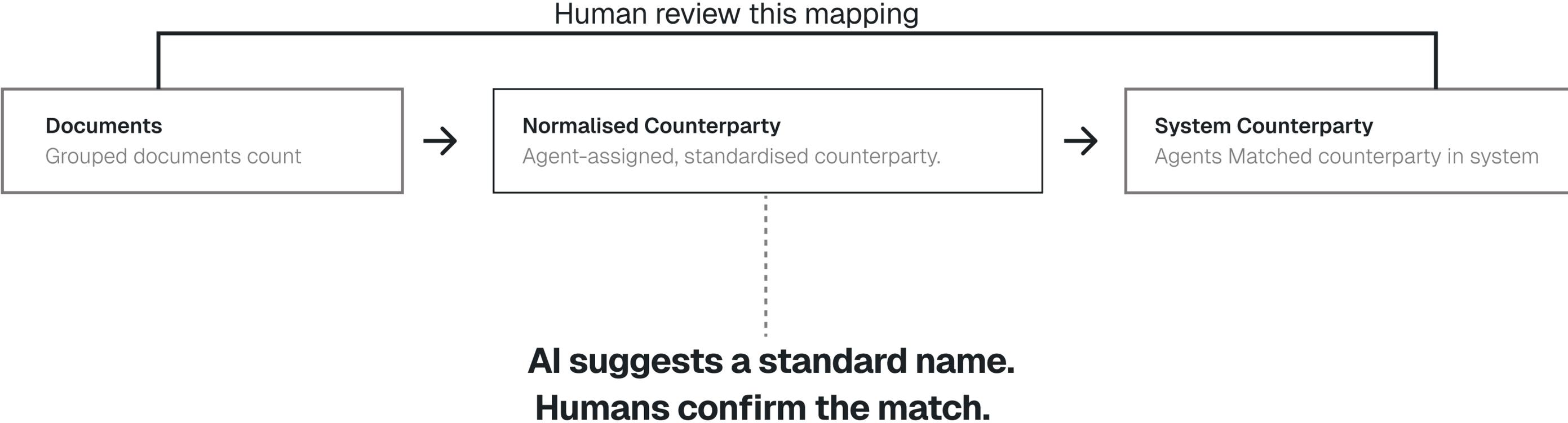
### View Less

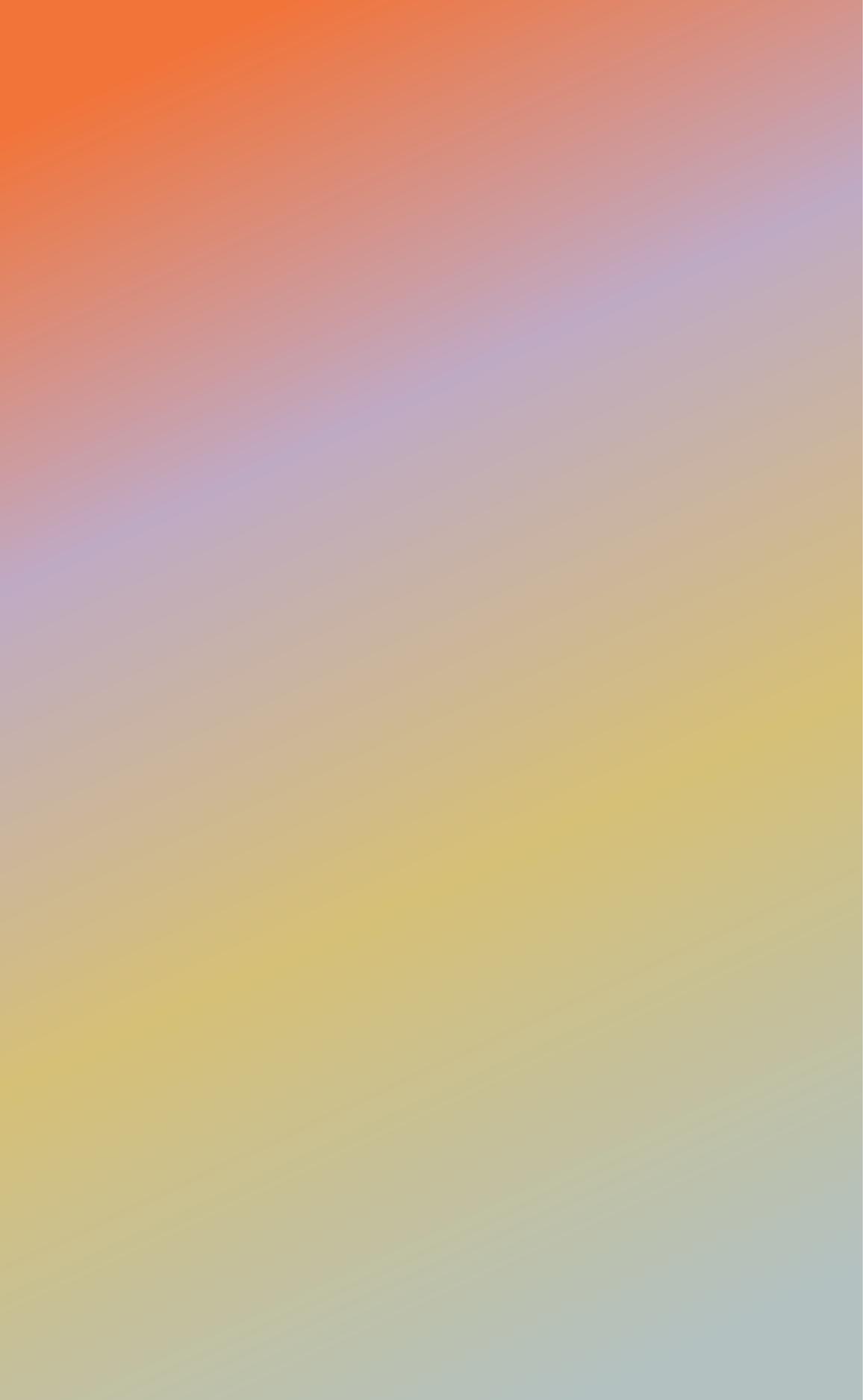
**Contracts often use  
different names for the  
same company.**

Example:

- IBM Japan
- IBM Watson Ltd
- IBM Services Pvt Ltd

**The agent groups related documents.  
But humans review the grouping.**





**So the interface follows how  
lawyers think.**

Mapped Counterparties   Missing Counterparties   Orphaned Documents

Download   Re-Run

Documents Grouped documents count	Normalised Counterparty Agent-assigned standardised counterparty.	System Counterparty Matched counterparty in system
3 Documents	IBM Functions Pvt Ltd	<a href="#">IBM Functions Pvt Ltd</a>
<i>Title</i>	<i>Extracted Counterparty</i>	
Master Terms Amendment 2024	IBM Japan	
Service Agreement 11-052	IBM Functions Pvt Ltd	
Addendum to Service Agreement	IBM Functions Pvt Ltd	
6 Documents	Amazon Web Services	
24 Documents	Oracle Cloud Infrastructure	
10 Documents	Salesforce Technologies	
8 Documents	Microsoft Azure	
15 Documents	IBM Cloud	
12 Documents	Google Cloud Platform	
5 Documents	Alibaba Cloud	
30 Documents	DigitalOcean	
8 Documents	Heroku	Heroku
7 Documents	Linode	Linode
18 Documents	Vultr	Vultr
0 Documents	Deekness	Deekness

Search

**Recommended**

- IBM Japan Ltd
- IBM Functions Pvt Ltd
- Halley- IBM Software
- Orion - IBM Tech Solutions

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- Resolve Disputes Corp,
- Synergy Partners Ltd
- Jupiter Probes Inc
- Murugan Enterprises
- Global Goods caps

[+ Create New Supplier](#)

# The interface mirrors the mental model of legal review

- grouped rows
- expandable rows
- correction action

## 4. Execution

Humans confirm → agents bulk act

Mapped Counterparties

Missing Counterparties

Orphaned Documents

**Once we reduced  
cognitive load, we  
focused clarity at  
scale**

# Humans decide. Agents execute

One decision. System-wide  
propagation

## ⊕ Bulk Create Counterparty

All counterparty will be created as system counterparty  
and will be mapped to corresponding documents.

Cancel

Yes, Create

Mapped Counterparties

Missing Counterparties

Orphaned Documents

Download

Re-Run



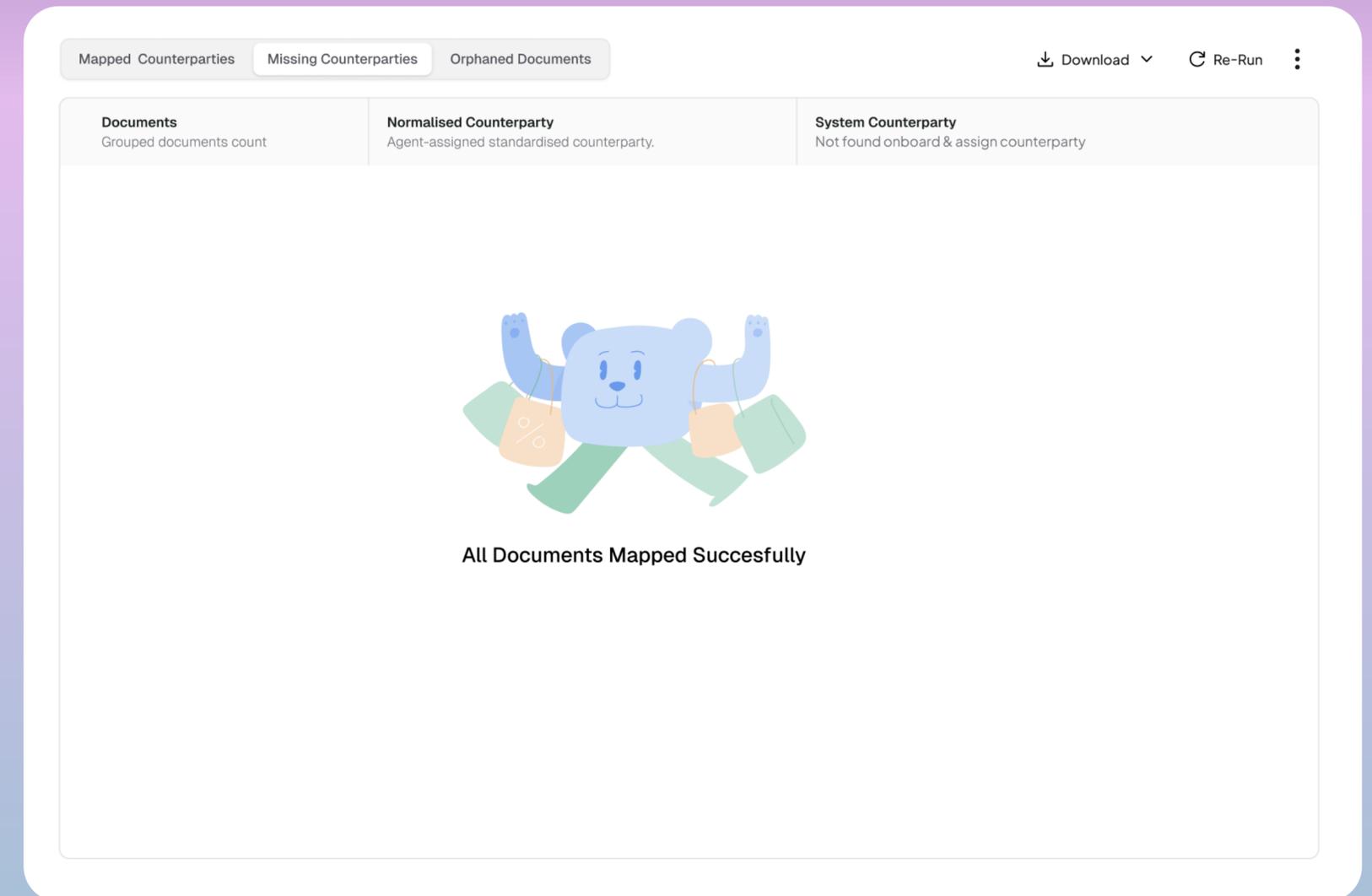
Documents Grouped documents count	Normalised Counterparty Agent-assigned standardised counterparty.	System Counterparty Not found onboard & assign counterparty	
3 Documents	Amazon Web Services	Amazon Web Services	Assigned
6 Documents	DigitalOcean	DigitalOcean	Assigned
24 Documents	Alibaba Cloud	Alibaba Cloud	Assigned
10 Documents	VMware Cloud	VMware Cloud	Assigned
3 Documents	Salesforce Cloud	Salesforce Cloud	Assigned
6 Documents	SAP Cloud	SAP Cloud	Assigned
24 Documents	Oracle Cloud	Oracle Cloud	Assigned
10 Documents	IBM Cloud	IBM Cloud	Assigned
31 Documents	Tencent Cloud	Tencent Cloud	Assigned
3 Documents	Microsoft Azure	Microsoft Azure	Assigned



Instantly created  
and mapped  
across all  
documents

Architecturally, this became a human-in-the-loop pipeline:

Review → Confirm → Agent acts at scale.

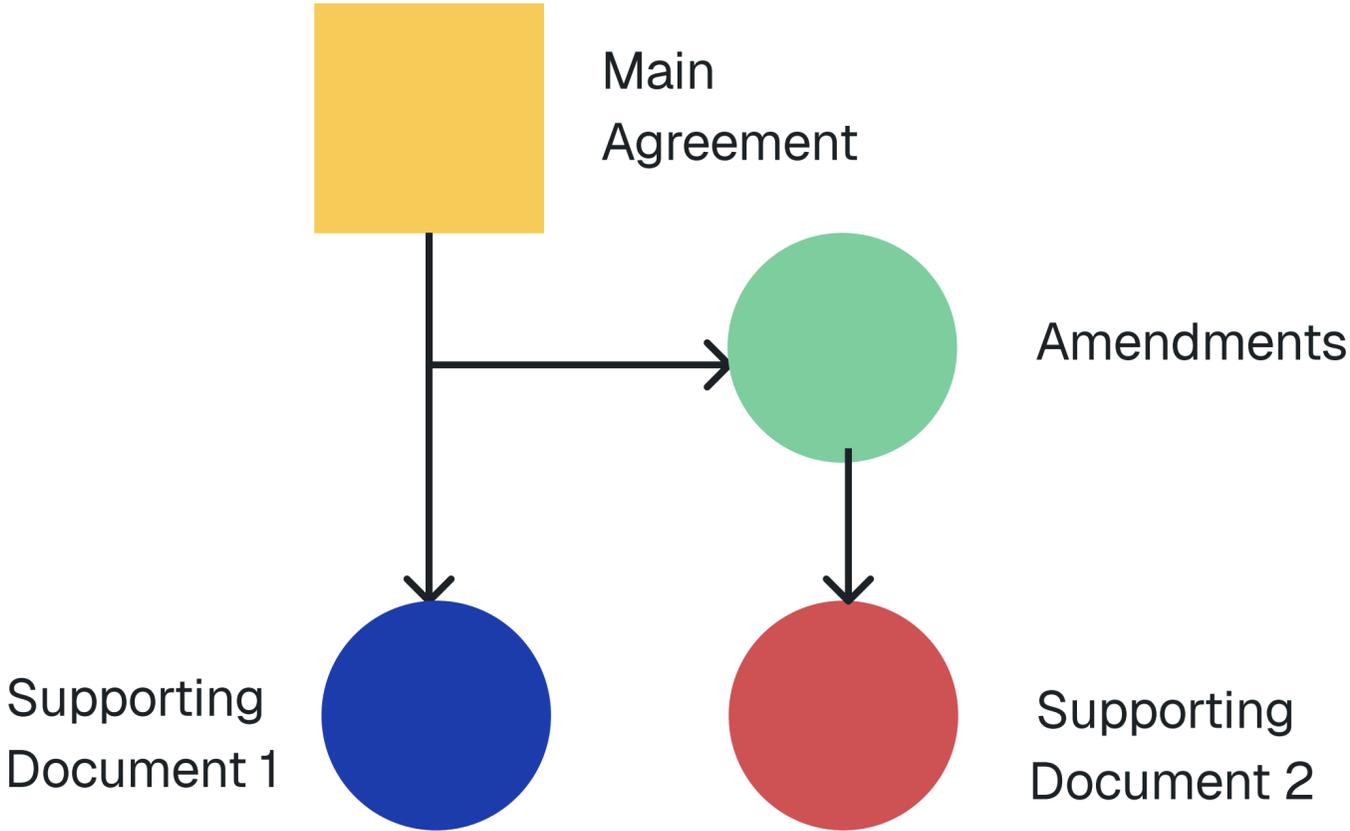


# 5. Outcome

Hierarchy created → system learns

What is contract families?

# Hierarchy transforms documents into structured intelligence



# Why this matters

- Obligations roll up correctly
- Amendments don't overwrite parents
- Risk analysis becomes reliable

# Contract family mapping review needs understanding of three contract document types

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01

## Contractual

– MSA, NDA, SOW, Amendment

These are core agreements that usually act as parent documents in a contract family — defining main terms, scope, and relationships.

02

## Peripheral

Emails . Insurance policies (no counterparty found)

Linked to a contract for context or record, not legally binding. Useful for negotiation history or compliance evidence.

03

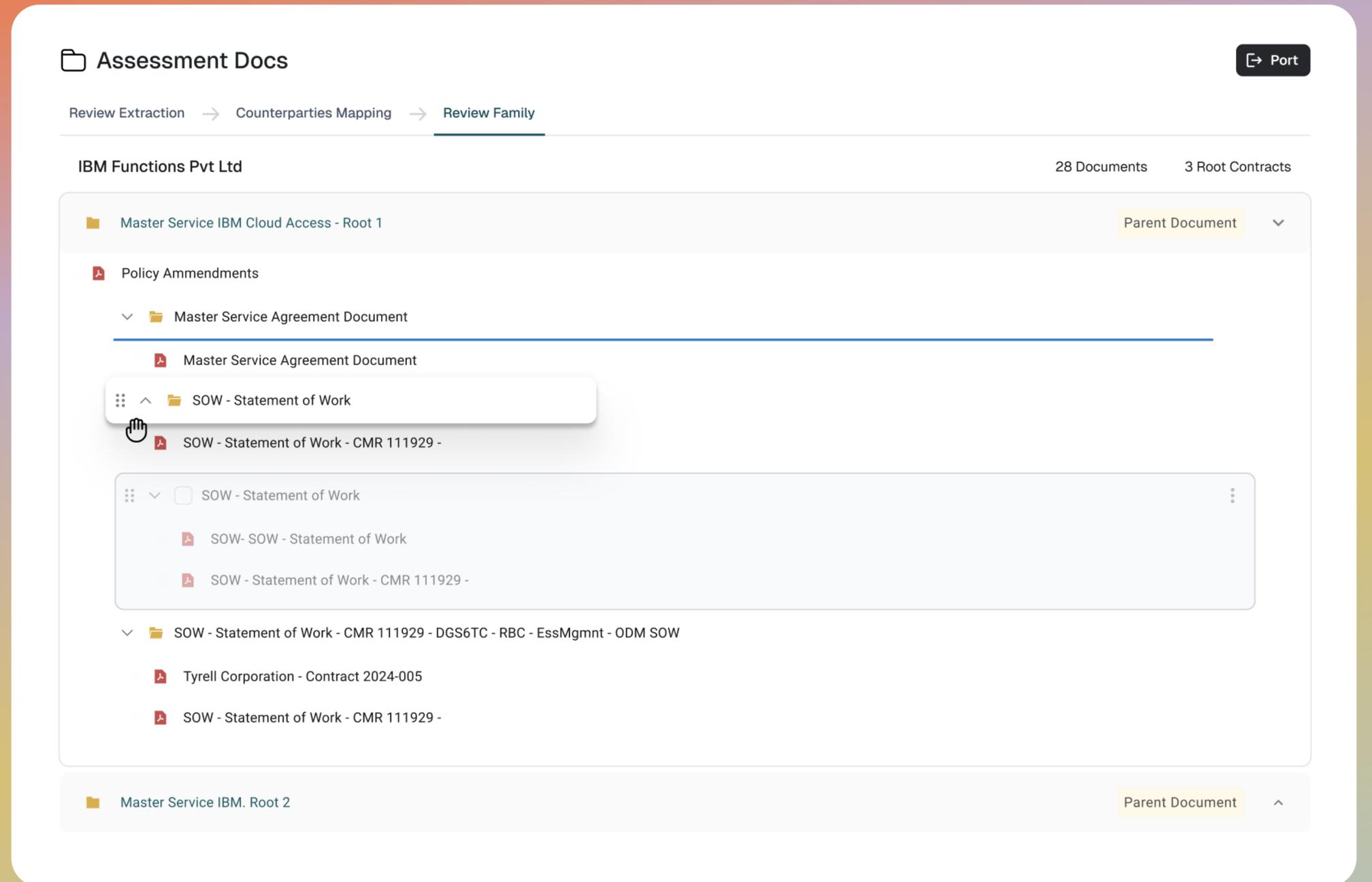
## Supporting

Schedules, Signature documents, Annexes

They extend or authenticate the main contract. Often attached or referenced, providing details or proof but rarely stand alone.

# Added drag and drop

it gave control to alter the structure, if needed.



AUTO EXTRACTION

Search Views

All Records 0

 Create New Project

 Default

## All Records

Start Uploading Documents to Store Data,  
How it works?

- 1 Select or Create New Project**  
Projects helps you keep your documents organised.
- 2 Extract Information**  
Data extraction agent reads documents for crucial information
- 3 Review Extracted data**  
Agents needs your support to validate its accuracy and improve data quality.

Not sure about projects upload documents to "Default" project.





## Key Takeaways

- **From chaos → confidence**  
Automation only works when humans can verify it.
- **Designing for ambiguity**  
I prioritized explainability (relationships + sources) over raw model accuracy.
- **Systems impact**  
Human decisions feed agents.  
Agents scale outcomes.

## Project Impact

- 80% manual reduction
- 30% faster onboarding

## These gains came from:

- Reducing cognitive load
- Making agent reasoning visible
- Letting humans correct once, agents scale forever

# Looking forward

This pattern now informs how we design all agent workflows: clarity first, automation second.

View more projects- [www.amritdesigns.com](http://www.amritdesigns.com)



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