# Complychain for RegXperience\*

Smart Al Risk Management for SMBs

Abdul Khader & Divya Venkatraman

& honorary member Dev Jadhav (who had proposed this project!)

### Al Risk is Real..



### Al Frameworks

Framework	Scope & Nature	Key Features	Compliance	Audience
NIST AI RMF Since Jan 2023	Voluntary, US-developed Risk-based	4 functions: Govern, Map, Measure, Manage Bias, robustness focus	Non-prescriptive Flexible	US orgs Risk adopters
ISO/IEC 42001 Since Dec 2023 Only 16 organizations are certified	International standard Al management systems	Structured governance Trust, terminology, documentation	Prescriptive Certifiable	Global orgs Al governance focus
OECD AI Principles Since May 2024	Non-binding Ethical guidelines	5 principles + 5 policy recs Human-centric approach		Policymakers Strategy designers
EU Al Act Since July 2024	Legally binding Risk-based EU regulation	Tiered risk levels Strict for high-risk systems		EU-based AI deployers High-risk system devs
Singapore Al Verify Since May 2022	Voluntary, gov-developed Technical toolkit	Sandbox + tests Fairness, security, robustness	Voluntary Output-based reports	SG-based orgs Responsible AI pilots

### Problem

Organizations are struggling to adopt Al governance!

Breaking down the problem - the **key challenges** in operationalizing Al Governance:

### → Keeping Track of Al Systems:

Organizations need a clear and up-to-date inventory of all their AI models and systems—what they are, where they're deployed, and who's responsible..

### → Understanding What Rules Apply:

They must stay informed about the latest AI risk regulations and frameworks to know exactly what rules and requirements apply to their systems.

### Proving Ongoing Compliance:

They need a reliable way to regularly check if each AI system meets these requirements and to generate evidence of compliance when needed.

### Our Solution

Key Challenges in Operationalizing Al Governance:

→ Keeping Track of Al Systems:

→ Understanding What Rules Apply:

Proving Ongoing Compliance:

#### Outcome Focus:

1. Stakeholders: Independent Compliance consultants targeted on SMBs (limited resources, expertise,& budget to manage Al compliance)

2. Reduce time on compliance process

teration '

### ComplyAsset Agent

A workflow agent

teration 2

### ComplyAsk Agent

A regulatory-aware RAG Agent

eration 3

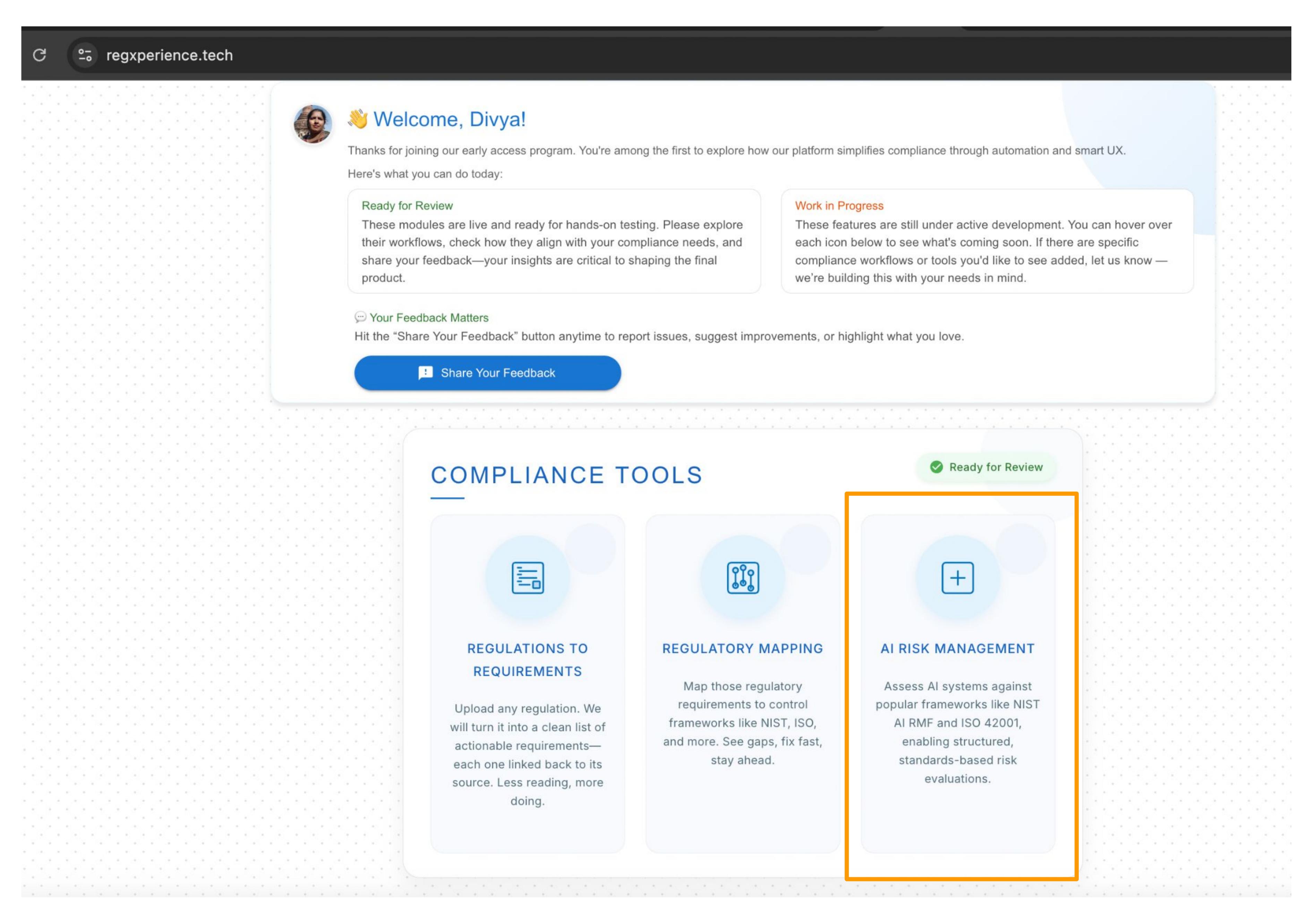
### ComplyAssess Agent

A human-in-the-loop workflow Agent

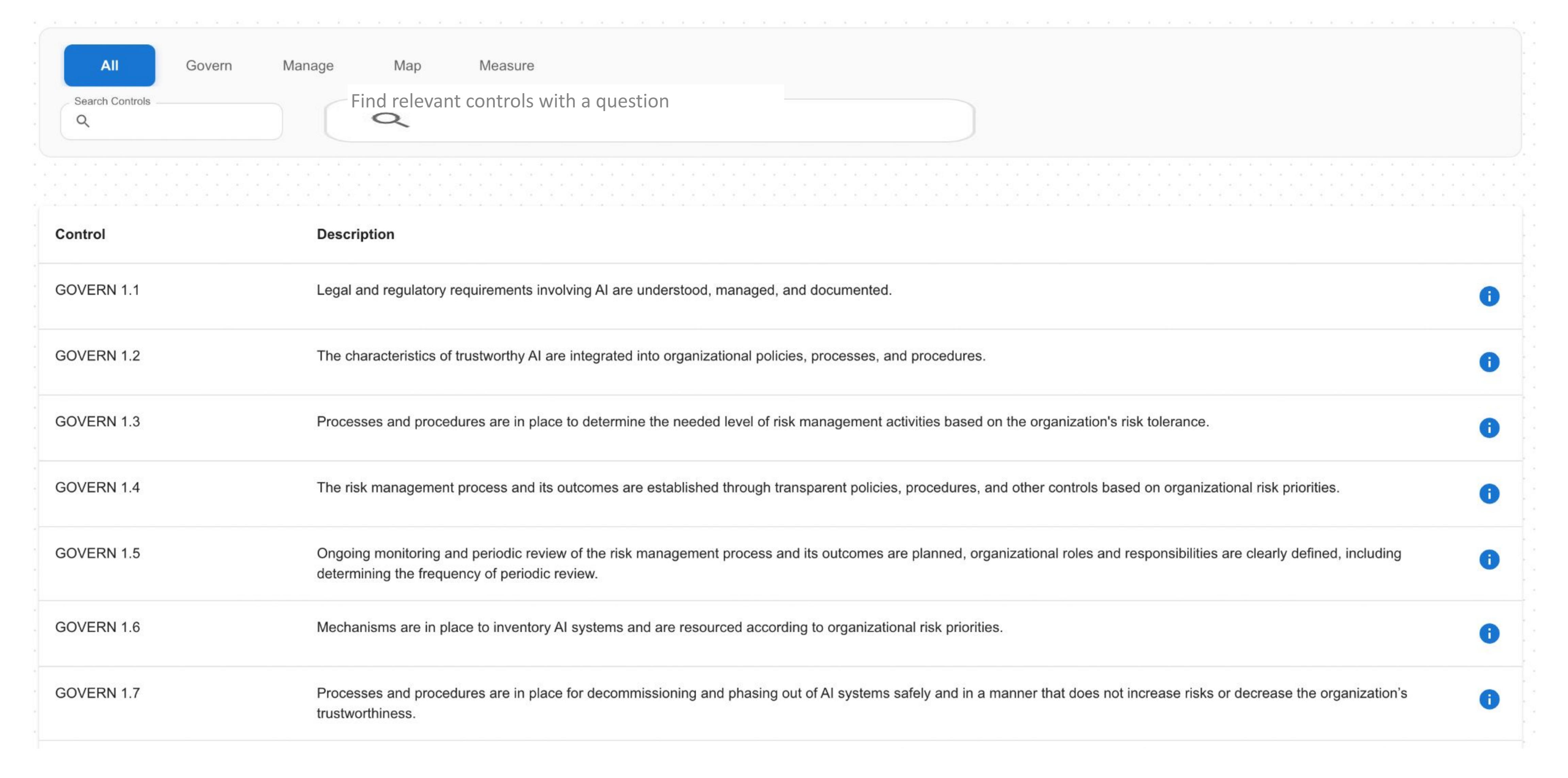
### Design Specifics

Iterations	Cost/Latency	Optimizations	GuardRails	Eval Metrics					
ComblyAsset	Could be Rules-based system (with some LLM based for validation) for tracking + notifications.								
		<ul> <li>Search Bar</li> <li>Restricted to         copyrighted         regulations</li> <li>Only requirements         will be vectorized</li> </ul>	Query term	- Retrieval Accuracy (using labels from compliance managers)					
	- Batch process not real-time assessment	length of evidence	- Document Access	Consistency - Reasoning					

### Demo: RegXperience

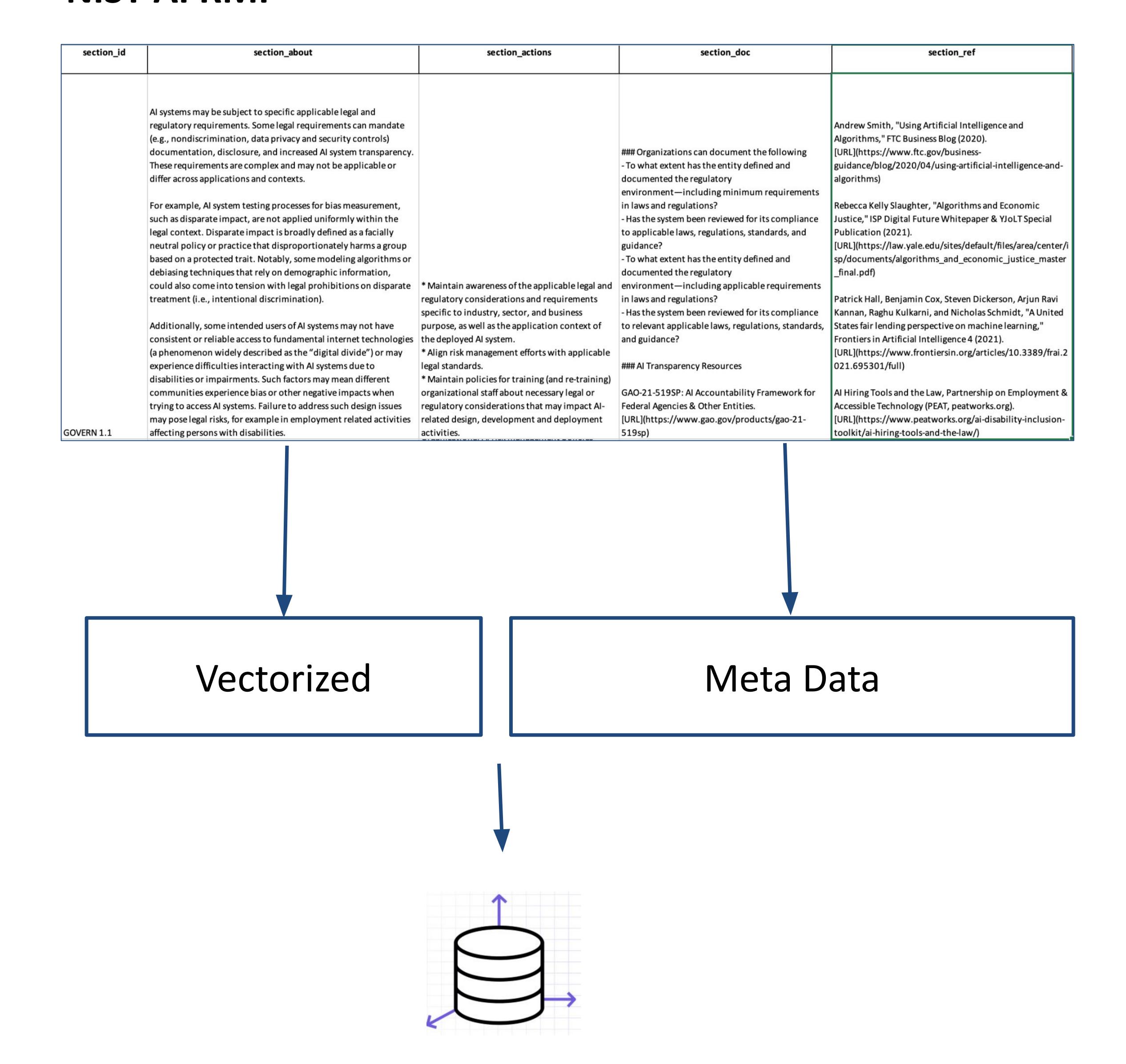


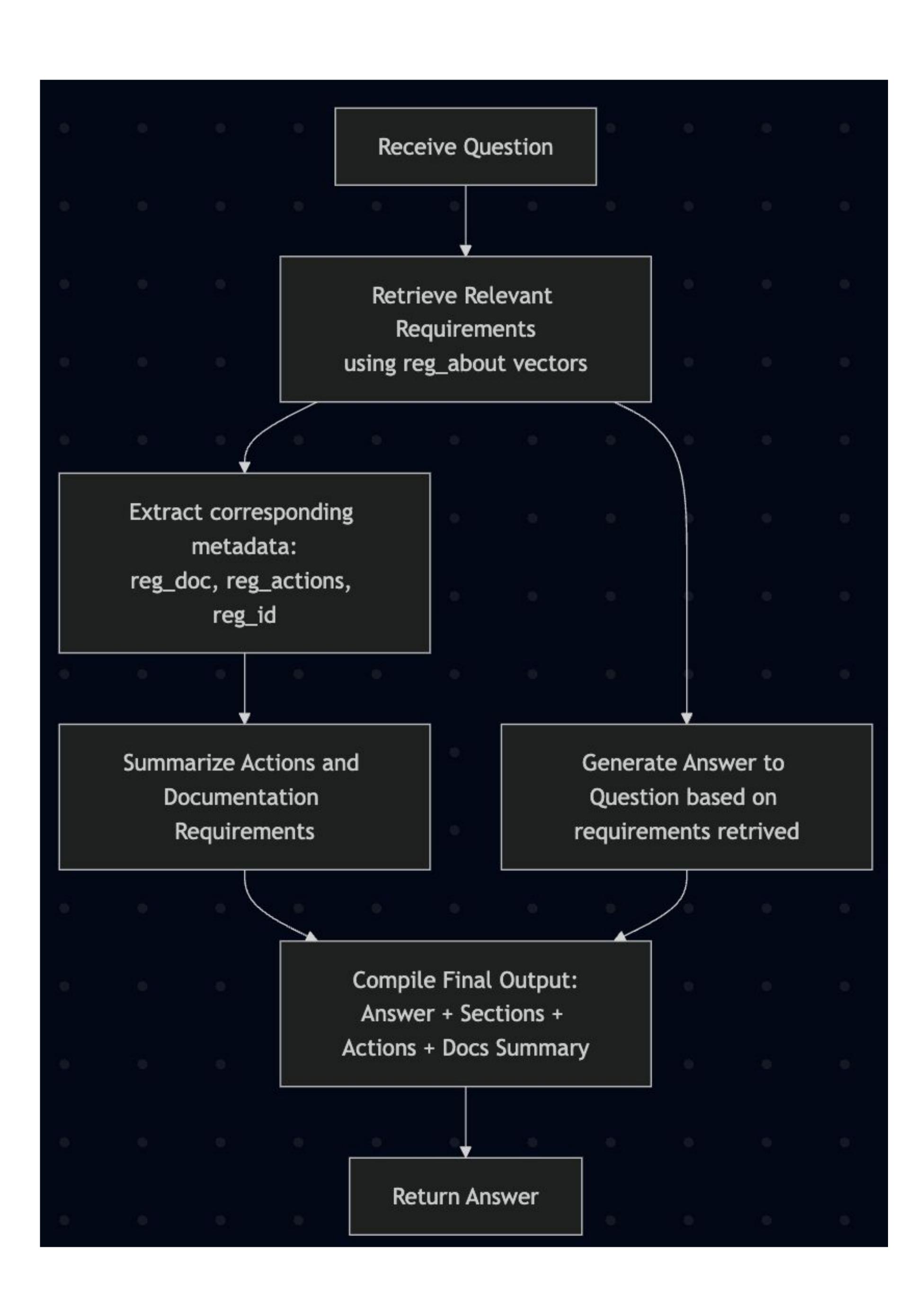
# ComplyAsk Agent -> Search bar in AI RM(RegXperience)



### Mechanics: ComplyAsk Agent

#### NIST AI RMF





### Results: ComplyAsk Agent

```
### Question:
   How are responsibilities for AI risk management assigned across teams and leadership?
   ### Answer:
   Responsibilities for AI risk management are assigned across teams and leadership by ensuring that senior leadership and members of
   ### Relevant Section IDs:
   ['GOVERN 2.3', 'GOVERN 2.1']
   ### Summary of Actions:
   Key actions for AI governance and risk management include:
1. **0rganizational Management**:

    Define and declare acceptable risk levels for AI systems.

    Actively support and engage in AI risk management.

    Cultivate a risk and harm prevention mindset throughout the AI lifecycle.

    Appoint and support qualified risk management leaders.

    Delegate authority and resources for risk management across the organization.

  **Board and Committee Involvement**:

    Create board committees dedicated to AI risk management.

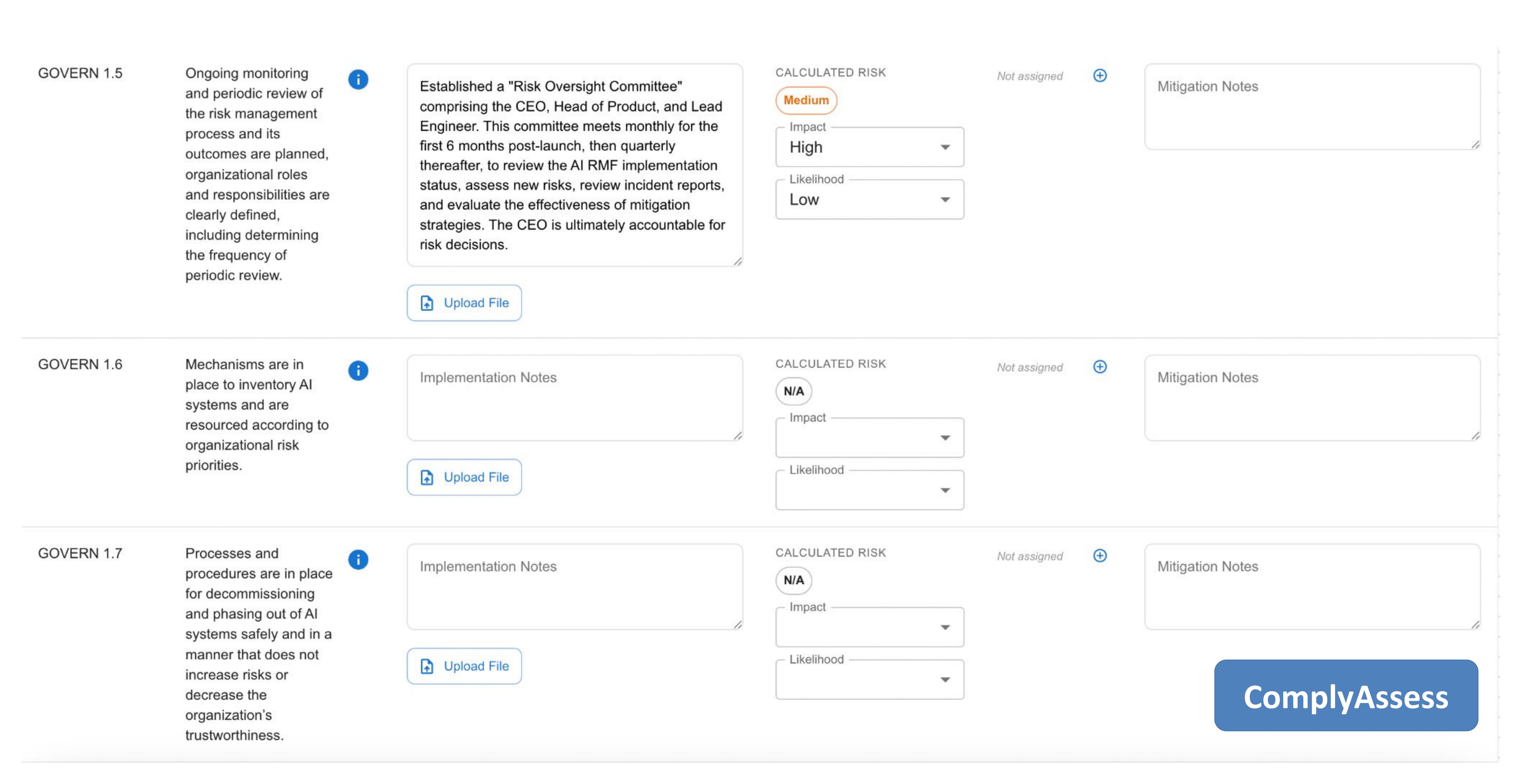
    Integrate AI risk management with broader enterprise risk strategies.

    ### Summary of Documentation Requirements:
    Internal teams focused on compliance, risk, and audit should document the following to demonstrate adherence to AI governance requi
1. Sponsorship and Participation: Records showing that the organization's board and/or senior management sponsor, support, and particip
2. Roles and Responsibilities: Clear documentation of the roles, responsibilities, and delegated authorities of personnel involved in A
```

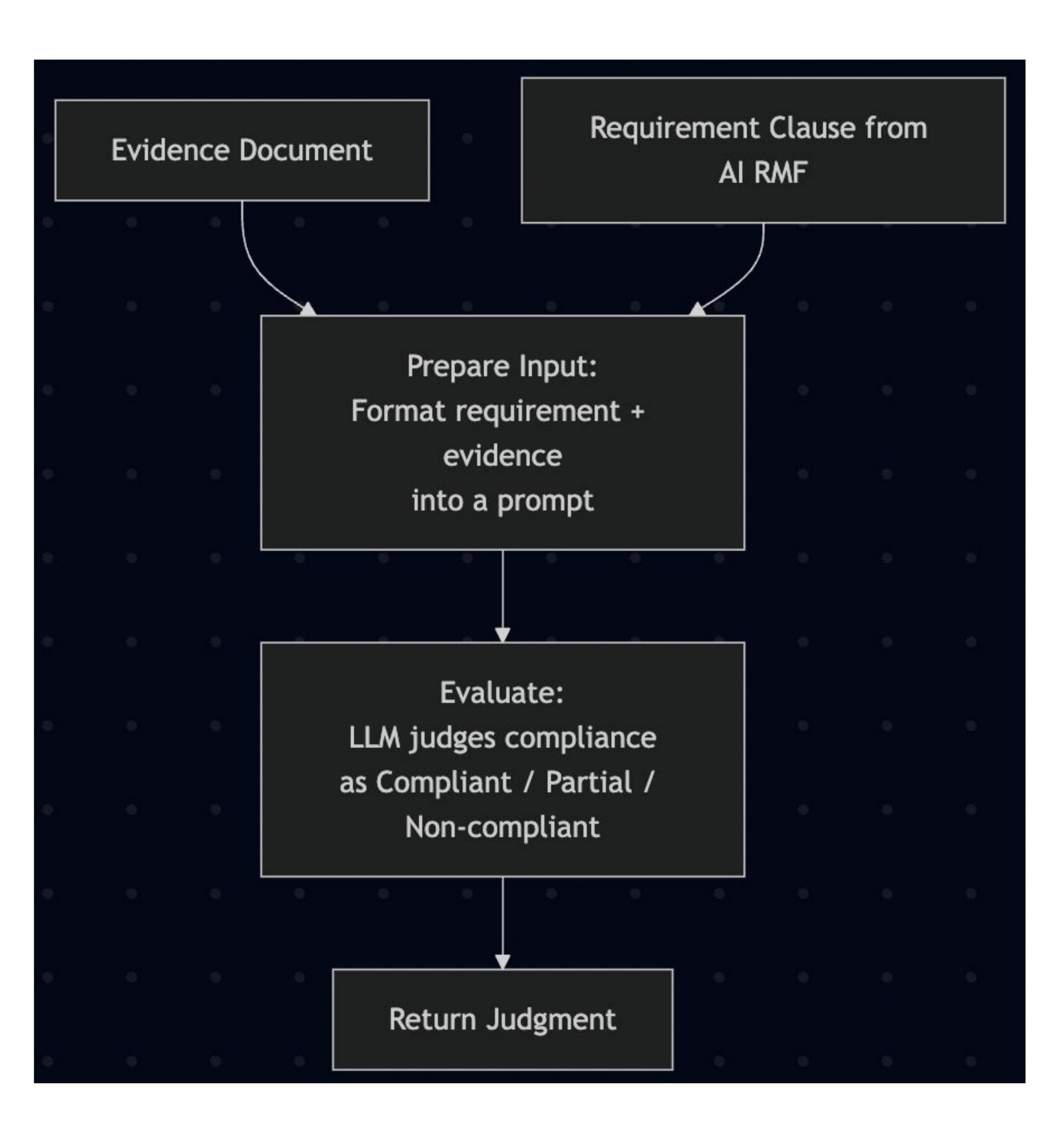
3. Decision—Making Support: Evidence that AI solutions provide adequate information for personnel to make informed decisions and take a

4. Accountability Practices: Documentation of practices related to accountability in data management and protection, ensuring alignment

## ComplyAssess Agent -> Assess Button in Al RM(RegXperience)



### Mechanics: ComplyAssess Agent



**Govern 1.6:** An *AI system inventory is an organized database of artifacts* relating to an AI system or model. It may include system documentation, incident response plans, <u>data dictionaries</u>, links to implementation software or s<u>ource code</u>, <u>names</u> and <u>contact information for relevant AI actors</u>, or other information that may be helpful for model or system maintenance and incident response purposes. AI system inventories also enable a holistic view of organizational AI assets. A serviceable AI system inventory may allow for the quick resolution of:

- specific queries for single models, such as "when was this model last refreshed?"
- high-level queries across all models, such as, "how many models are currently deployed within our organization?" or "how many users are impacted by our models?"

Al system inventories are a common element of traditional model risk management approaches and can provide technical, business and risk management benefits. Typically inventories capture all organizational models or systems, as partial inventories may not provide the value of a full inventory.

Α	В	С	D	E	F 4	ι <b>ト</b> L	М	N	0	Р	Q	R	S
Model/System Name	Model Type	Deployment Status	Deployment Environment Bus	Business Owner	Technical Owner	Training Data Source(s)		Documentation Link(s)	Source Code Repository	License / IP Info		Risk Classification	Use Case Category
Credit Scoring Model	Classification	Deployed	GCP	Risk Management	Alice Tan	Internal banking datasets	The state of the s	https://bank.internal /docs/model_doc	https://git.bank.com /repo	Proprietary	scikit-learn, pandas	Medium	Loan risk assessment
Fraud Detection Al	Anomaly Detection	In development	On-Prem	Fraud Division	John Lim	Internal banking datasets				Proprietary	scikit-learn, pandas	Medium	Fraud alerts
Customer Churn Predictor	Regression	In development	Azure	Customer Retention	Sarah Lee	Internal banking datasets	ALCOHOL CO. CO. CO. CO.			Proprietary	scikit-learn, pandas	High	Retention offers
Loan Approval Bot	Rule-Based NLP	Deployed	GCP	Lending	David Ong	Internal banking datasets	THE RESERVE OF THE PARTY OF THE			Proprietary	scikit-learn, pandas	Low	Loan eligibility
Transaction Categorizer	Clustering	Deprecated	GCP	Finance	Meena Raj	Internal banking datasets		https://bank.internal /docs/model_doc	https://git.bank.com /repo	Proprietary	scikit-learn, pandas	High	Spending analysis

### Results: ComplyAssess Agent

#### ComplyAssess Agent: Judgment Details

#### Judgment:

#### Completely meets the requirement

#### Reasoning:

The provided evidence showcases an AI system inventory that is comprehensive and well-structured, meeting the governance requirement outlined. Here are the specific points supporting this conclusion: Organized Database:

The inventory provides a detailed structure with columns such as Model/System Name, Model Type,
Deployment Status, Deployment Environment, and more. This organizes relevant artifacts for each AI system
effectively.

#### **Essential Information:**

It includes critical information like system documentation (Documentation Link(s)), incident response plans (Incident Response Plan Link), data dictionaries (Data Dictionary / Schema), and source code links (Source Code Repository). These are key elements mentioned in the governance requirement.

#### Contact Information:

Names and contact information for relevant AI actors (Business Owner, Technical Owner, Point(s) of Contact) are provided for streamlined communication.

#### Maintenance and Incident Response:

The inventory assists with model maintenance and incident response by including Date of Last Refresh, Initial Deployment Date, and Last Audit Date columns, which are crucial for tracking system updates and audits.

#### Holistic View and Resolution of Queries:

High-level metrics such as Model Version, Deployment Status, and Estimated Number of Users Impacted enable a holistic view. Queries like the number of deployed models or models' usage can be quickly resolved using this data.

#### Model Risk Management:

Risk Classification and Al Risk Control Measures columns align with traditional model risk management

### Design Specifics

Iterations	Cost/Latency	Optimizations	GuardRails	Eval Metrics					
ComplyAsset  Agent	Could be Rules-based system (with some LLM based for validation) for tracking + notifications.								
<b>ComplyAsk</b> Agent		<ul> <li>Search Bar</li> <li>Restricted to         copyrighted         regulations</li> <li>Only requirements         will be vectorized</li> </ul>	Query term	- Retrieval Accuracy (using labels from compliance managers)					
ComplyAssess Agent		length of evidence	- Document Access	Consistency - Reasoning					