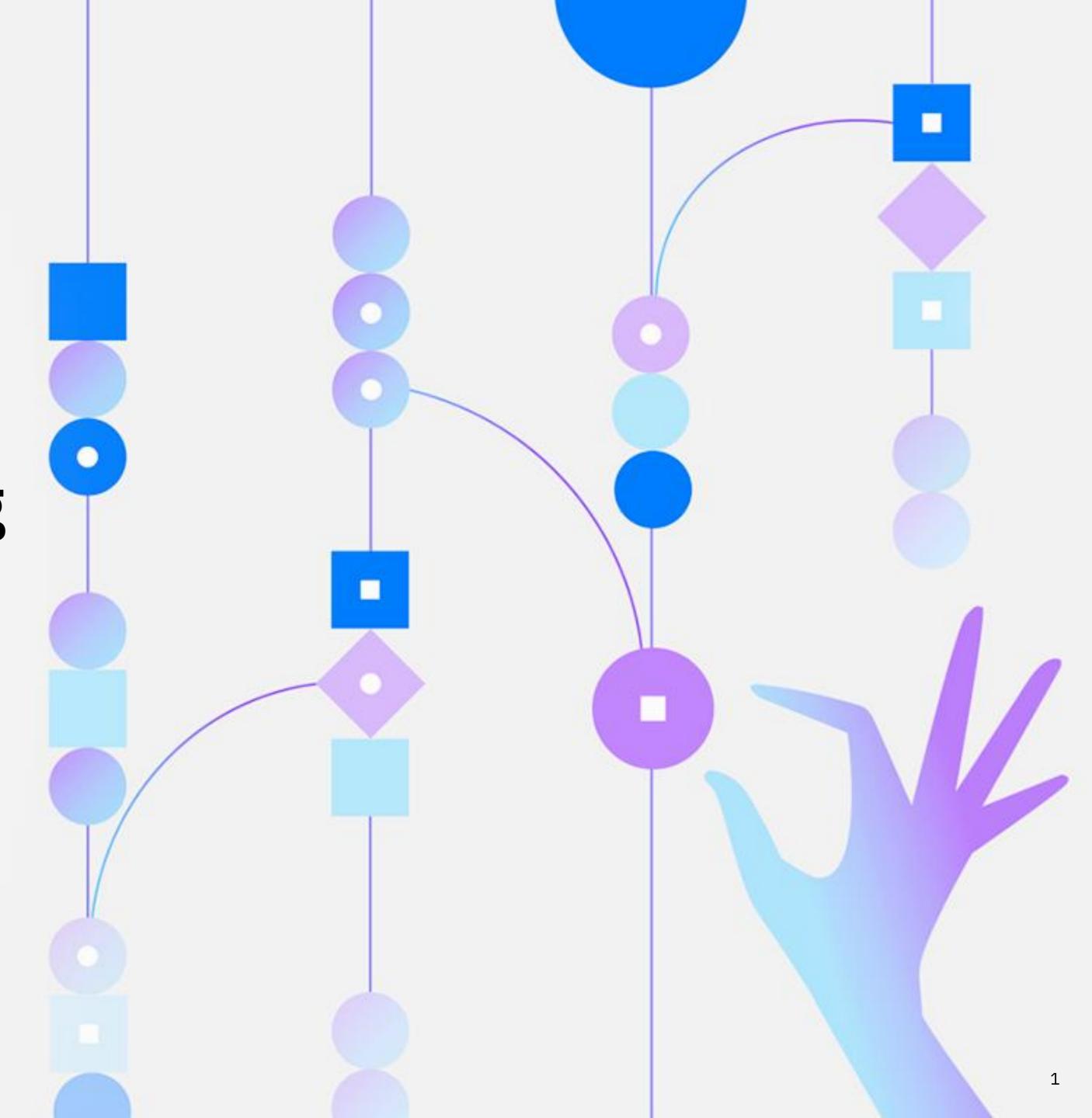


# Intelligent Claims Processing with Agentic AI

IBM Consulting, July 2025



## The case for change in Claims Processing

## The Challenges | Hurdles in Claims Processing

### Reliance on Manual Review



Claims team spend significant time manually verifying coverage, reviewing documents, and calculating costs—resulting in delays, inconsistency, and higher processing costs..

#### Fragmented Data and **Inputs**



Claims come in many forms documents, images, emails, sensor data—creating friction in review and making it difficult for legacy systems to synthesize context accurately.

## Inconsistent Decisioning & Limited Auditability



Traditional workflows lack consistency in how decisions are made and offer limited traceability raising compliance and regulatory risks.

The Impact | Manual, Fragmented Processes Lead to Higher Costs, Delays, and Compliance Risk

70%

Up to 70% of effort spent on low-complexity claims triage and review

2-5 days

Claims cycle times delayed by 2-5 days due to manual document processing.

## Inconsistent Decisions

Result in rework, disputes and lower customer satisfaction

The Need and Opportunity | AI-Powered Claims Processing with Automation, Accuracy, and Transparency

## Automated Coverage & Cost Assessment

AI agents review submitted claims, match them against policy rules, and estimate damages using integrated cost databases.

Value: Reduce claim cycle times and free up expert resources.

## Multi-Modal Data Handling & Context Understanding

Processes structured and unstructured data (PDFs, images, forms, sensor feeds) to generate a unified claim view.

Value: Improve decision accuracy and reduce errors caused by incomplete data interpretation

## Human-in-the-Loop Oversight with Full Traceability

Ensures that AI decisions can be audited, reviewed, and 3 adjusted—especially for complex claims.

Value: Strengthen compliance and reduce liability exposure.



## Agentic AI app for claims automation

IBM's Agentic AI solution for claims processing transforms how insurers and enterprises handle claim intake, assessment, cost estimation, and adjudication. Built with autonomous AI agents and scalable architecture, Claims AI automates end-to-end workflows while ensuring transparency, auditability, and human-in-the-loop control.

## App Overview

Claims-AI supports automating complex and high-volume claims processes across property, auto, health, and commercial policy coverage.

It uses several AI agents to intelligently review policy coverage, estimate costs, generate structured reports, and identify claims requiring human review.

It can integrate with existing systems to deliver faster claims decisions, reduce processing costs, and ensure consistent, policy-aligned outcomes at scale.

#### **Use Cases**

Property Damage Claims Auto Accident Claims

Health/Workers'
Comp Adjudication

Commercial Liability Evaluation

## Capabilities



#### **Agents for coverage assessment**

Agents for policy coverage understanding and agents to evaluate claims based on damage reports, images and sensor data.



#### **Cost Estimation**

Agents to estimate cost based on coverage assessment and enterprise data for cost estimates for various levels of repairs.



#### **Online search**

Agentic ability to search online sources (preapproved during configuration) for repair providers.



#### **Report Generation**

Ability to act as underwriter agent to generate report for coverage, cost, and repair.



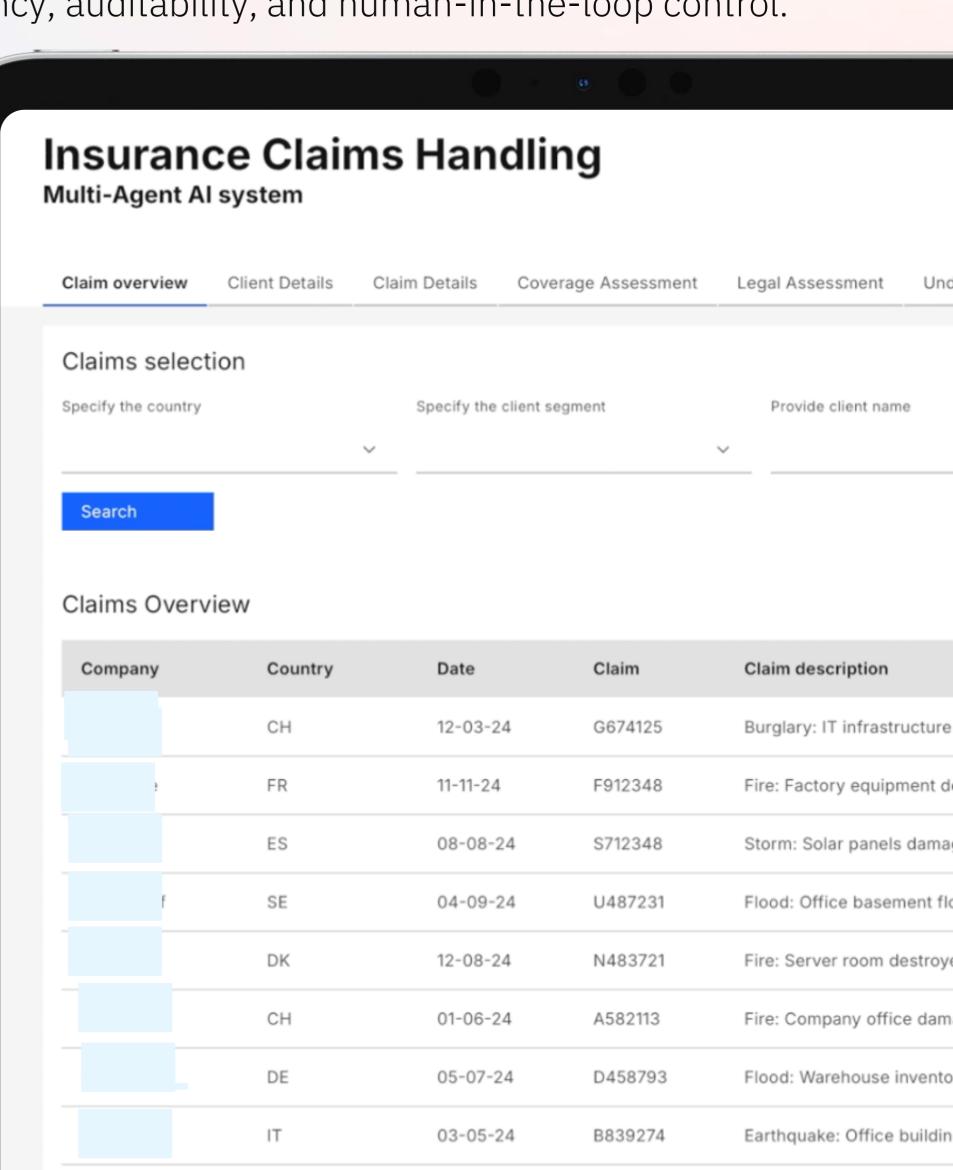
### **Customizability**

Can adapt to various policies, can connect to enterprise data sources, customize context for agents.



#### **Security, Compliance & Privacy**

Built in grounding, guardrails for security and compliance.

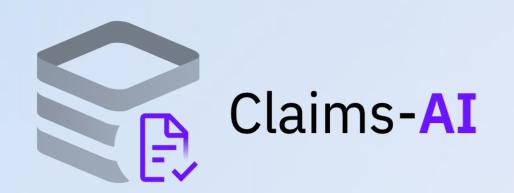


10-04-24

BE

Burglary: Office computer

T928314



## Claims Processing process flow with Agentic AI

## Personas

**Alex** Claims Handler

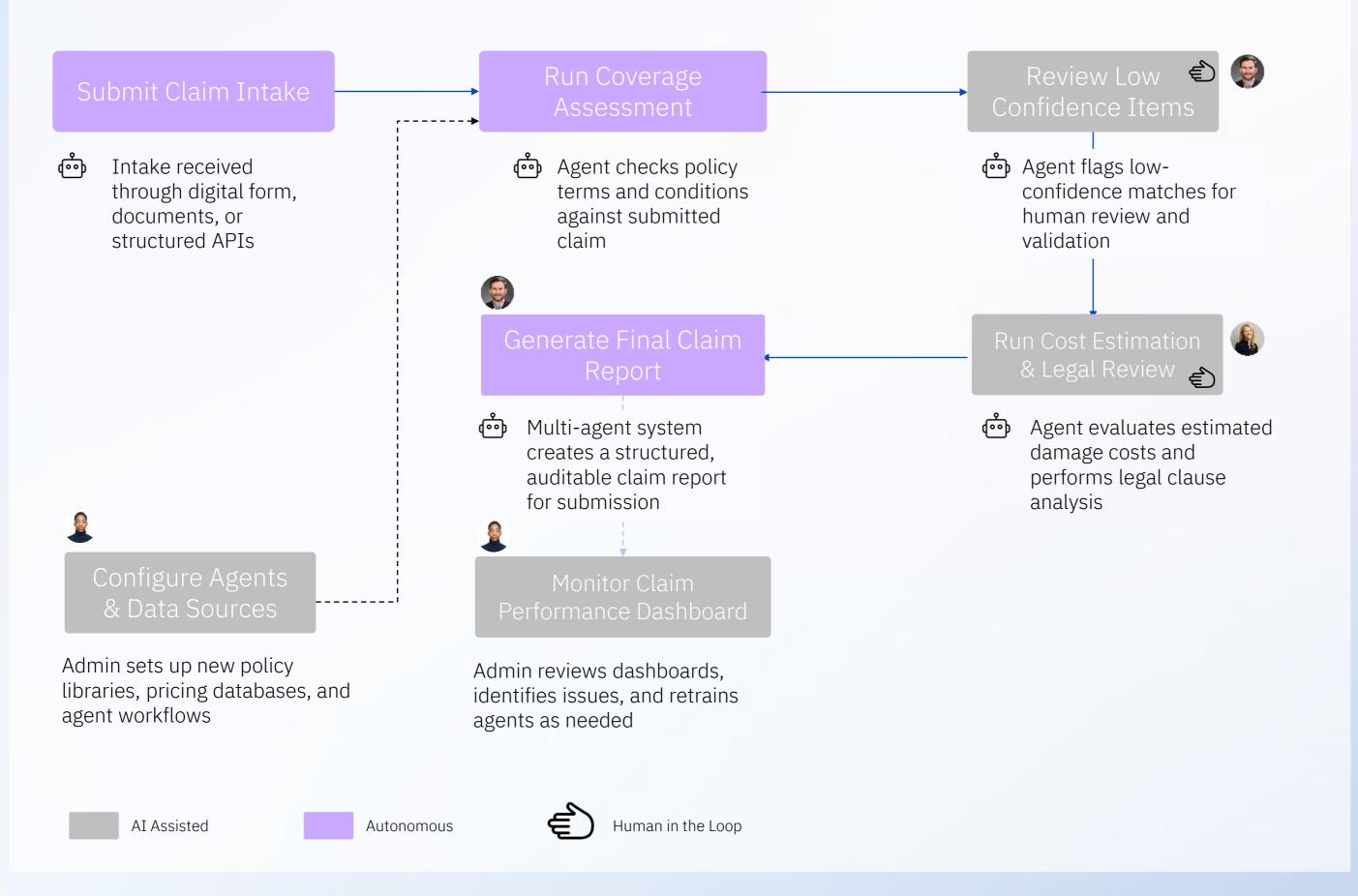


Jamie Policy Specialist



**Kathy** AI Claim Admin

## Journey / Workflow

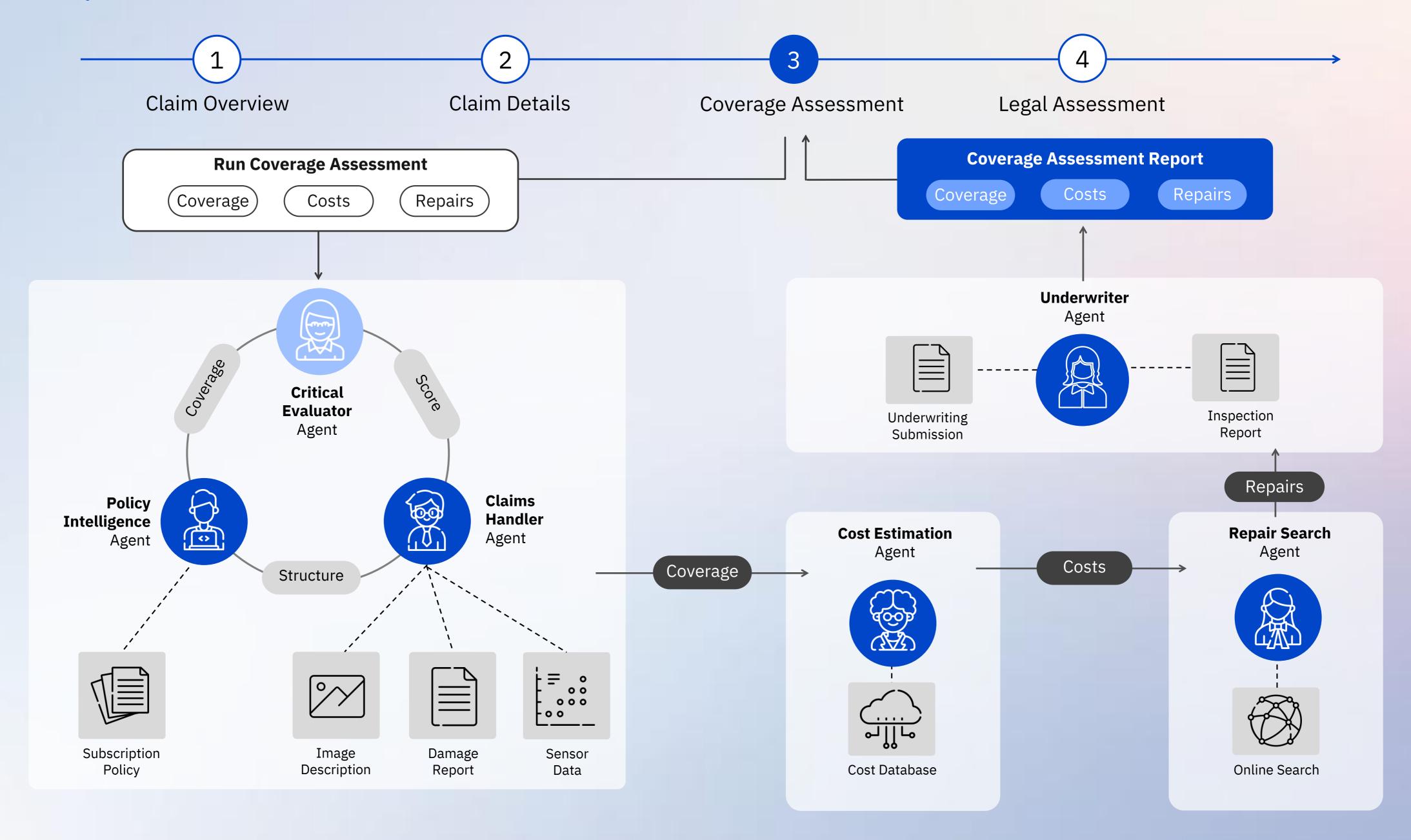


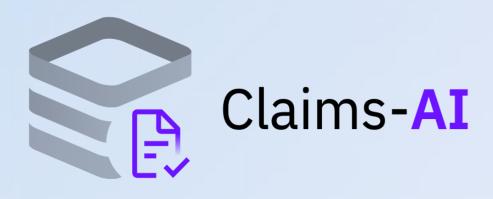
## Benefits & Value

60-80%		Reduction in time spent in reviewing and adjudicating claims					
70%+		decrease in human error and inconsistency					
50%		faster resolution time for low-complexity claims					
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	Intelligent Multi-Agent Collaboration Orchestrates specialized AI agents to automate assessments, cost analysis, and report generation						
	Human-in-the-Loop Controls Ensure compliance, auditability, and expert oversight for complex cases.						
	Scalable & Configurable Modular framework supports new product lines, regions, and workflows.						

<sup>\*</sup> This journey is illustrative, and will vary based on the client's specific requirement

## Agentic Capabilities Overview

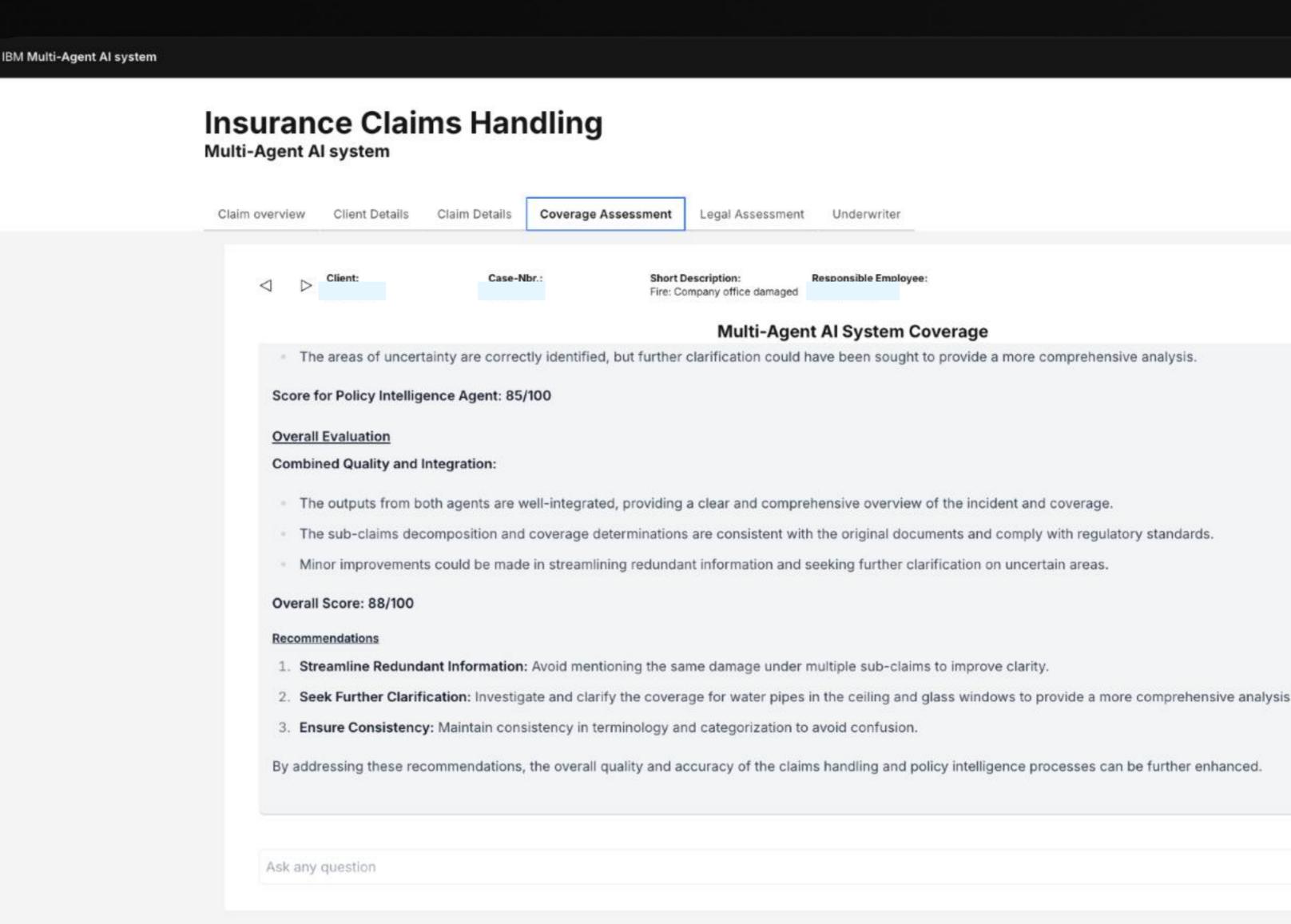


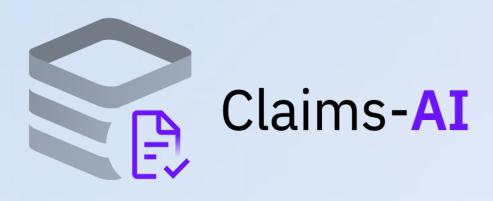


# **Feature 1 –** Automated Coverage Assessment

Claims-AI accelerates the coverage validation process by automating policy checks and surfacing decisions in real time.

- Uses AI to extract key data points from claims and match them against policy terms
- Flags exclusions, limitations, and policy clauses relevant to the claim
- Generates an automated coverage assessment report for underwriters or adjusters
- Reduces cycle time and manual effort in early claim triage





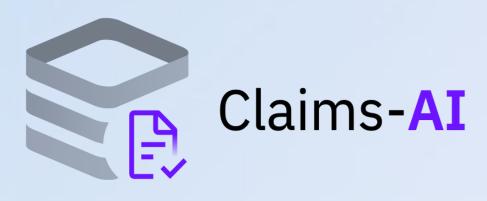
# **Feature 2 –** Multi-Agent Collaboration for Claims Review

IBM Multi-Agent Al system

Claims-AI coordinates specialized agents to perform complex claims tasks in parallel—ensuring speed, consistency, and accuracy.

- Involves agents like the Claims
   Handler, Policy Intelligence, and
   Cost Estimation Agent
- Each agent performs a distinct function and passes structured output to the next
- Supports seamless hand-offs and decision points across the claim's lifecycle
- Mirrors human roles for audit-ready explainability and transparency

Insurance Claims Handling Multi-Agent Al system Coverage Assessment Claim Details Legal Assessment Responsible Employee Multi-Agent Al System Coverage The areas of uncertainty are correctly identified, but further clarification could have been sought to provide a more comprehensive analysis. Score for Policy Intelligence Agent: 85/100 **Overall Evaluation** Combined Quality and Integration: The outputs from both agents are well-integrated, providing a clear and comprehensive overview of the incident and coverage. The sub-claims decomposition and coverage determinations are consistent with the original documents and comply with regulatory standards. Minor improvements could be made in streamlining redundant information and seeking further clarification on uncertain areas. Overall Score: 88/100 Recommendations Streamline Redundant Information: Avoid mentioning the same damage under multiple sub-claims to improve clarity. 2. Seek Further Clarification: Investigate and clarify the coverage for water pipes in the ceiling and glass windows to provide a more comprehensive analysis 3. Ensure Consistency: Maintain consistency in terminology and categorization to avoid confusion. By addressing these recommendations, the overall quality and accuracy of the claims handling and policy intelligence processes can be further enhanced. Ask any question



# **Feature 3 –** AI-Generated Legal and Risk Summaries

AI agents synthesize key legal insights and risk factors from claim documents and external data sources.

- Extracts relevant legal language and applies internal policy interpretation models
- Summarizes complex cases into readable, auditable narratives
- Supports faster decision-making and improves legal review consistency
- Can be extended to fraud risk signals and severity scoring

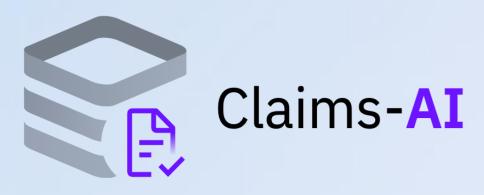
IBM Multi-Agent Al system

## Insurance Claims Handling

Multi-Agent Al system

Ask any question

Legal Assessment Coverage Assessment Multi-Agent Al System Legal Items:\*\* 1. \*\*Damage to Glass Windows:\*\* - Historical Context: While none of the historical cases explicitly address the coverage of glass windows, and regarding repairs often results in disputes. Courts have previously leaned towards interpreting unclear exclusions in favor of policyholders (see Case 6: Sn Insurance). - Legal Perspective: The lack of clarity for glass windows increases litigation risk. Courts may view the insurer's duty to indemnify in good fa structural elements such as windows unless expressly excluded. 2. \*\*Damage to Local Utilities and Infrastructure:\*\* - Historical Case Reference: Utilities indirect damages, as seen in Case 2: TechSolutions Inc. vs. Prime Insurance, where business interruption and utility-related costs were settled favorably for policy language, requiring inspections within the past 12 months, could be contested as overly restrictive. - Legal Perspective: Courts may side with policy damage is tied directly to covered fire damage, particularly in cases where maintenance records are unavailable or non-specific. \*\*B. Problematic Non-Co \*\*Damage to Water Pipes:\*\* - Historical Context: While Case 3 and Case 6 did not involve water-related claims, the exclusion due to wear and tear has I Courts generally uphold such exclusions, but aggressive litigation may challenge applicability or proportionality of exclusions. 2. \*\*Damage to Private Clo Historical Context: Server room exclusions remain consistent with Prime Insurance's exclusion of malfunctions (Case 2). Since there is historical data indic settlements, denying such claims has potential litigation repercussions if policy wording is vague. --- #### \*\*3. Risk Analysis:\*\* \*\*Litigation Risk:\*\* - \*\* insurer risks disputes over glass windows and local utilities as policy ambiguity often leads courts to interpret terms favorably for the policyholder. - \*\*No like water pipes and server room damages pose lower direct legal risks but may invite disputes if policyholder losses reach significant thresholds or involved \*\*Reputational Risk:\*\* - Denying the uncertain claims without a clear policy explanation could tarnish the insurer's image and undermine policyholder trus reputational sensitivity to over-restrictive interpretations of coverage. \*\*Good Faith Concerns:\*\* - Failure to clarify policy ambiguities or fairly consider in considered bad faith. Courts emphasize insurer responsibility to avoid interpreting ambiguities oppressively. --- #### \*\*4. Recommendations:\*\* \*\*Addre \*\*Glass Windows:\*\* Recommend provisional coverage contingent on further investigation into causality and the extent of connection to covered structural risk while maintaining goodwill. 2. \*\*Local Utilities and Infrastructure:\*\* Explore policyholder maintenance records to determine compliance with inspection could be extended if no records are producible to ensure alignment with good-faith practices. \*\*Non-Covered Items:\*\* 1. \*\*Water Pipes:\*\* Uphold denia explanation emphasizing fair and clear application of wear-and-tear exclusions. 2. \*\*Private Cloud Server Room:\*\* Reiterate the exclusion for data center opportunity for mediation to maintain transparency and trust. \*\*Policyholder Relations:\*\* Invest in clear communication with the policyholder, referencing



## Feature 4 – Human-in-the-Loop Oversight and Auditability

Claims-AI enables transparent review with embedded checkpoints for human approval, feedback, and escalation.

- Allows adjusters or underwriters to validate, revise, or override agent recommendations
- Maintains logs of human and AI decisions for audit and compliance
- Ensures regulatory defensibility and reinforces trust in AI-assisted decisions
- Balances automation with human expertise at critical decision points

IBM Multi-Agent AI system

## Insurance Claims Handling

Multi-Agent Al system

Claim overview Client Details Claim Details Coverage Assessment Legal Assessment Underwriter

edit save

Actual Policy

Fire Insurance Policy

Policy Numbe Insurer:
Insurance Company Customer:

#### Welcome to FireShield Insurance

#### **About FireShield Insurance**

The insurer of this product is FireShield Insurance
Company, referred to as 'FireShield,' 'we,' 'us,' or 'our.'
FireShield provides comprehensive fire insurance
products designed to protect your business property
and assets against fire-related damages. We aim to
ensure your business is safeguarded from fire risks,
allowing you to focus on operations with peace of mind.

#### **Duty of Disclosure**

Before entering into a contract of fire insurance with us, Zenastra AG must disclose all material information that a prudent insurer would consider in determining whether to insure your business and, if so, under what terms. Non-disclosure may result in denial of claims or cancellation of the policy. Underwriter suggestion

edit save

#### Revised Fire Insurance Policy Section for Addressing Uncertain Claims

To resolve the ambiguity and ensure clarity, the following section should be added and or modified to the existing Fire Insurance Policy.

#### Definitions

 asdadasd Windows and doors mean any glazed section or panel of a building's external envelope, including frames and associated fixtures, which are utilized for access, egress, or light entry.

#### Section: Cover

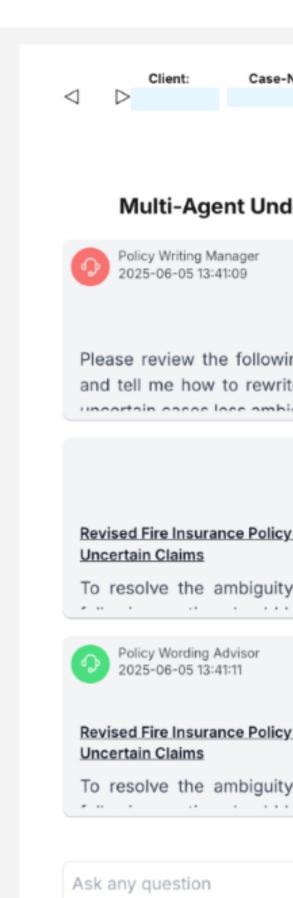
Broken and Shattered Glass Windows

Current Policy Wording: "The policy does not explicitly mention coverage for broken windows due to fire."

#### **Updated Policy Wording:**

We will cover the cost of repairing or replacing broken or shattered glass windows and damaged doors resulting from fire. This includes the glazing, framing, and any associated fixtures attached to the building's external

Export



## **Insurance Claims Handling**

Multi-Agent Al system

Claim overview Client Details Claim Details Coverage Assessment Legal Assessment Underwriter

#### Claims selection

Specify the country Specify the client segment Provide client name Provide Case ID Specify assigned employee

Search

#### Claims Overview

Company	Country	Date	Claim	Claim description	Employee	Status	Actions
	СН	12-03-24	G674125	Burglary: IT infrastructure stolen	Melanie Neu	Completed \$	edit
	FR	11-11-24	F912348	Fire: Factory equipment destroyed	Sophie Dubois	Completed \$	edit
	ES	08-08-24	S712348	Storm: Solar panels damaged	Isabella Garcia	Completed \$	edit
	SE	04-09-24	U487231	Flood: Office basement flooded	Liam Anderson	Completed \$	edit
	DK	12-08-24	N483721	Fire: Server room destroyed	Sofia Nielsen	Completed \$	edit
	СН	01-06-24	A582113	Fire: Company office damaged	Adrian Anger	Incomplete \$	edit
	DE	05-07-24	D458793	Flood: Warehouse inventory damaged	Lukas Muller	Incomplete \$	edit
	IT	03-05-24	B839274	Earthquake: Office building cracks	Marco Rossi	Incomplete \$	edit
	BE	10-04-24	T928314	Burglary: Office computers stolen	Emma Janssens	Incomplete \$	edit
	AT	00.10.24	0200022	Ctaum, Car flast damaged	All lump	(Hadas Davieus A)	a alia



## Agentic AI's Business Impact

# Enhanced performance across three dimensions, driving significant business value



## Deeper

Improves LLM performance at tasks

bring in multiple perspectives, have fact-checking, and leverage finetuned & customized models



## Broader

Broadly applicable: complex processes

agents have broad capabilities (multimodality), connect to enterprise IT systems, cope with varied inputs & outputs



## Governed

Oversight: trace, monitor and govern these systems

full traceability (LLMs talk in English), monitoring & analytics (logs, replays) human in/out loop governance

## Indicative Delivery Timeline

document types

#### 1 to 3 weeks 8 weeks Build Blueprint **Assessment** Confirm Sponsoring Define key customization Dev Dev Dev Organization, Key Users **Setup Sprint Test Sprint** aspects, upstream and Sprint Sprint Sprint Mapping downstream integrations, any specific functional Build, Test & Playback MVP: Train users on agentic Deploy the Agentic App. Baseline business agents, any UI implement the business process and app and required processes for Get access to data customization or UI/UX validate through weekly playbacks governance transformation sources integrations. knowledge, refine AI with business users Identify Strategic & Ops Assistant-human Gather initial data set Define deployment plan Create and integrate required Data KPIs against specific collaboration, and and number of Products Set and test with sample goals start KPI tracking environments (dev, test, data Test out core capabilities production) Identification of Prepare production associated AI Risks and deployment Test with MVP data set Structure and plan a 8their impact on the use week MVP for the case prioritized features. Define test plan for 2-3

#### Prepare for Scale

 Structure engagement plan for scale

#### GenAI Assistants, Tools, Assets

- Agentic AI Readiness Score Framework
- ICA Assistant to classify process activities
- Mapping process mining metrics to Agentic AI Readiness Scores.
- ICA Assistant to generate first mapping to agentic architecture
- Agentic app Reference architecture

- Base App deployment code and containers
- GIT Repos
- Documentation and Deployment Guide

## Delivery Squad

- △ Delivery Executive
- Agentic AI technical Lead
- 2 Technical Architect
- UX Designer
- Bata Scientist

- △ AI Engineer
- Second Property Pr
- △ DevOps
- Test Specialist

#### **Assumptions and Dependencies**

- Setup and onboarding:
  Environment access prior to project kickoff
  - Asset will be deployed in one development environment and availability zone
  - Azure resources provisioned
  - Required knowledge store finalized

IBM development team onboarded to environment within first week of project

- 2 SME time commitment: SME input needed:
  - Data set knowledge
  - As is process and expected results
  - UI validation

SME feedback within three (3) business days

- Base deployment:
  - Will cover core base features of the app within 8-10 week MVP
  - Following query types will need additional development effort
    - Tool integration like raising ticket in workflow tool like service or any other type of integration with external API
    - Hyper personalization by connecting to user data
    - Queries based structured data sources like data base
    - Complex queries which require custom calculation before responding to user question

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## Get in touch and find out more



Claims-AI

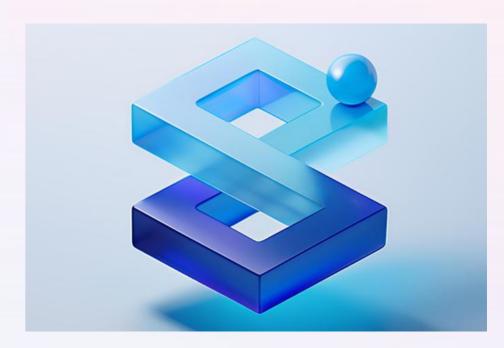
Find out more and request a demo in ICA4AA Agentic App Library

Click here



Read more about the technical documentation in our GitHub

Click here



Visit AI Integration Services space on Content+

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