

UNLOCK
N **VALUE**
IN INSURANCE

— A PLAYBOOK TO MOVE FROM —
AI PILOTS TO ENTERPRISE IMPACT

THE AI OPPORTUNITY IN INSURANCE

Insurance is one of the oldest risk-transfer mechanisms in the world and one of the most data-intensive industries ever built. Yet for decades, the industry has run on a fundamental paradox: vast quantities of data, and remarkably little of it working in real time. Underwriters have assessed risk from static snapshots. Claims handlers have processed loss events weeks after they occurred. Actuaries have priced portfolios on historical patterns that may no longer reflect the world being insured.

Meanwhile, the risks themselves have been getting harder — climate volatility is rewriting catastrophe models, social inflation is compressing liability margins, cyber exposure is growing faster than anyone can price it, and customers shaped by digital-first experiences have little patience for processes designed in the 1980s. The result is an industry under simultaneous pressure from every direction: rising combined ratios, legacy technology constraints, insurtech disruption, and a regulatory environment demanding more transparency and fairness from every algorithmic decision.

AI changes that fundamentally. For decades, insurers have managed risk by looking backward — at historical data, actuarial tables, and established processes. Today, the carriers leading the market are the ones deploying AI not as a point solution, but as an enterprise operating model — embedded across underwriting, claims, distribution, compliance, and customer experience. Infosys' AI First Value Framework brings structure to that ambition, translating six proven AI value pools into insurance-specific outcomes: intelligent underwriting assistants that process submissions in seconds, autonomous claims agents that settle straight-through, digital twins that enable real-time risk monitoring, and governance frameworks that make AI viable in a regulated industry. Powered by Infosys Topaz Fabric for Insurance™, this is not a roadmap for the future. It is what leading insurers are building today.



The Value Gap: Pilots vs. Enterprise Impact

Most insurers have AI. Few have AI at scale. The gap between experimentation and enterprise impact is the defining challenge and it shows up consistently across three failure patterns:

Pilot purgatory:

Proofs-of-concept that demonstrates technical feasibility but never reach production due to data, governance, or change management barriers.

Point-solution myopia:

Isolated AI tools for specific tasks that generate local efficiency gains but fail to compound into enterprise-wide value.

Platform without purpose:

Investment in AI infrastructure without clear business outcome mapping, leaving large capabilities underutilized.

The carriers who will lead the next decade are not the ones with the most AI experiments. They are the ones with the most disciplined approach to scaling AI value across the enterprise — systematically, responsibly, and at pace.

THE AI VALUE GAP IN INSURANCE

Current State: High Experimentation, Limited Enterprise Value

Across the insurance industry, AI experimentation is widespread. Carriers have run pilots in claims automation, pricing model refinement, fraud detection, and customer service chatbots. In many cases, these pilots have demonstrated impressive results in controlled environments. Yet the translation from pilot success to enterprise impact has proven elusive for most.

The core problem is fragmented deployment. AI initiatives launched by individual business units — claims, underwriting, distribution — operate in isolation, each with their own data sources, governance models, and technology stacks. Without a unifying architecture or enterprise AI operating model, the value of each initiative is capped at the boundary of its business unit, and the compounding returns of interconnected AI systems are never realised.

The question is no longer whether AI matters. It is about moving with purpose — from scattered experiments to enterprise-wide, production-grade AI that transforms how risk is assessed, claims are settled, and customers are served.



Industry-Specific Constraints

Legacy core systems

Policy admin and claims platforms built decades ago constrain AI deployment in the most value-generative workflows

Data fragmentation

Policy, claims, customer, and actuarial data siloed across lines of business — P&C, Life, Health — and distribution channels

Regulatory complexity

Explainability, fairness, and compliance requirements create real barriers to deploying AI in pricing, underwriting, and claims

Intermediary complexity

Broker and TPA ecosystems add data and workflow complexity that point-solution AI cannot navigate



The Shift Required

The transition from AI experimentation to enterprise AI value requires a fundamental shift in approach — from deploying AI use cases to designing an enterprise AI operating model. This means establishing a unified data foundation that all AI systems draw from, a governed platform that enables AI agents to act across workflows rather than within them, and a change management framework that brings underwriters, claims adjusters, and distribution teams along as AI collaborators rather than AI resisters.

WHY AI PROGRAMS ARE STALLING

Insurance AI programs fail for predictable reasons and understanding them is the first step to designing around them. Four fault lines account for the majority of stalled initiatives:



AI not embedded in end-to-end journeys:

Most insurance AI is deployed at the task level — a document extraction model here, a fraud score there. But the economics of AI accrue at the journey level: FNOL through to claims closure, new business submission through to policy issuance. AI that operates only within handoff points, not across them, cannot deliver the step-change improvements that justify enterprise investment.



Legacy core platforms constrain scale:

The most valuable workflows in insurance — underwriting decisioning, claims settlement, policy admin — run on systems designed for a pre-digital world. These platforms were not built to expose real-time APIs, consume AI model outputs, or participate in multi-agent workflows. Until modernisation creates that connectivity, AI sits alongside the core rather than inside it.



Data fragmentation across products and ecosystems:

A personal lines claim draws on different data than a commercial property underwriting submission. A group benefits renewal uses different systems than a direct-to-consumer auto policy. Across all of these, broker and TPA data adds another layer of inconsistency. Without a unified, AI-ready data foundation, every AI initiative builds its own bespoke data pipeline — and the enterprise never builds the data flywheel that separates AI leaders from laggards.



Trust, compliance, and explainability barriers:

Insurance regulators in every major market are increasing scrutiny of AI-driven decisions in pricing, underwriting, and claims. An AI model that cannot explain why a premium was set at a particular level, or why a claim was declined, is not deployable in a regulated insurance environment — regardless of its technical accuracy. Governance has to be designed in from the start, not retrofitted.



Beyond the above mentioned four primary fault lines, two additional factors compound the challenge for insurance AI programs:

Intermediary ecosystem complexity:

Brokers, managing general agents, and third-party administrators operate as data and workflow intermediaries between carriers and policyholders. AI systems that cannot ingest, normalise, and act on data from these intermediaries are structurally limited in their reach across the insurance value chain.

Workforce adoption:

Underwriters and claims adjusters have deep domain expertise built over careers. AI systems that are deployed without genuine workflow integration, without clear human-AI collaboration models, and without reskilling investment will be tolerated at best and actively resisted at worst. The human dimension of AI adoption is as important as the technical one.

This is where the role of the Infosys AI-first Value Framework makes a difference.

THE INFOSYS AI-FIRST VALUE FRAMEWORK

To close the enterprise AI gap, Insurance enterprises need more than isolated initiatives or incremental improvements. They need a structured approach to where AI creates value, how it is deployed and how it is scaled across the organization. The Infosys AI-first Value Framework provides this structure.

At its core, the framework is built around six critical pillars where AI investment and impact are converging, offering a practical map for how organizations can move from experimentation to enterprise-wide value creation.

Together, these six pillars form an integrated system for scaling AI, linking strategy to execution and experimentation to measurable outcomes.

This interconnected approach is particularly important in Insurance, where complexity, regulation and legacy environments demand coordinated transformation rather than isolated change.

The following sections explore each pillar in more depth, outlining how Infosys helps Insurers in overcoming current challenges and unlocking AI value at scale.

AI Trust

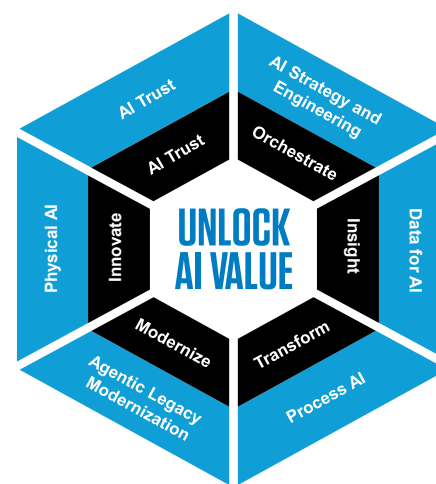
Ensures that AI systems and agents are deployed responsibly, securely and ethically across their entire lifecycle ensuring enterprises can scale AI with confidence while meeting regulatory, ethical and, risk expectations.

AI Strategy and Engineering

Focuses on establishing the foundations required to scale AI across the enterprise - designing and implementing AI strategies, platforms and architectures tailored to business needs.

Physical AI

Extends AI beyond traditional digital use cases. Institutions can design intelligent products, digital twins and embed AI into physical devices, institutions to capture sensor data, interpret signals and take real-time action.



Data for AI

Addresses one of the most persistent barriers to scale: preparing enterprise data, both structured and unstructured, for AI model readiness. It helps organizations convert raw data into a trusted strategic asset that fuels AI workflows.

Agentic Legacy Modernization

Looks at unleashing the power of agentic AI on legacy technology environments to reverse-engineer existing estates, understand their intent and progressively modernize them without disruption.

Process AI

Centers on embedding AI into core business processes by integrating AI agents and human expertise, with a focus on redesigning end-to-end workflows. It enables domain-aware agents to work alongside humans to drive step-change improvements.

AI STRATEGY AND ENGINEERING



CHALLENGE

From fragmented pilots to enterprise complexity

Across insurance carriers, AI initiatives are typically built within individual lines of business — underwriting, claims, distribution, actuarial — each pursuing its own pilots, vendors and architectures. The result is fragmentation: a P&C claims model that can't share infrastructure with a life underwriting model, duplicated data pipelines across LOBs, and no consistent way to govern or scale what works. Without a unifying strategy, moving from isolated proofs of concept to enterprise-scale AI becomes complex, costly and difficult to control.



WHAT WE DO

Building a strategic backbone for scale

Infosys helps insurers build the strategic and engineering foundations to scale AI across the enterprise. It starts with a clear AI vision anchored to insurance outcomes — combined ratio improvement, underwriting accuracy, claims cycle time, retention — and precise about where AI creates value across the policy lifecycle. This is made durable through an enterprise AI operating model with the governance, value-tracking and prioritization frameworks that keep investments aligned across P&C, life, annuity, reinsurance and specialty lines.

On the engineering side, Infosys designs AI-first architectures that unify data, models, applications and infrastructure across the insurance technology stack — orchestrating AI agents and integrating proprietary platforms such as Topaz Fabric for Insurance and Insurance Genome with third-party

The engineering challenge compounds this. Insurers must integrate AI into some of the most complex, regulated technology estates in financial services — connecting models to policy administration systems, Guidewire and other core platforms, claims and billing systems, and actuarial data stores, while meeting strict requirements for security, auditability, explainability and regulatory scrutiny (NAIC, IFRS 17, Solvency II, state-level compliance).

Cost is now a defining constraint on top of this. As AI scales from pilots to production across underwriting, claims and service, token and inference costs become a significant, often unpredictable operating expense — one that can outpace the value it creates if left ungoverned. Without visibility into the economics of each model, prompt and workflow, carriers risk deploying AI that is technically impressive but commercially unsustainable.

tools and core insurance systems like Guidewire for interoperability at scale. AI factories and innovation hubs turn this into momentum, accelerating new use cases — from underwriting triage to claims automation — under consistent governance so proven ones replicate across LOBs.

Infosys helps carriers engineer for cost, not just capability. Cost-aware architectures treat token and compute consumption as a first-class design decision — right-sizing models to each task, routing simpler requests (FNOL triage, policy queries) to smaller or open-source models, and using caching, retrieval and prompt optimization to cut token usage without compromising underwriting or claims decision quality. Combined with AI FinOps practices to monitor and govern spend, this keeps AI both high-performing and commercially sustainable as it scales across the book.

Infosys also embeds AI directly into the software development lifecycle for insurance platforms, shifting engineering toward AI-assisted and increasingly autonomous delivery. Through its Exponential Engineering approach and collaboration with Cognition, Infosys pairs Devin with Topaz Fabric to accelerate coding on core insurance systems, automate brownfield engineering and technical-debt reduction on legacy policy admin platforms, and resolve complex production issues faster.



The value delivered

Infosys enables insurers to move faster, reduce duplication and ensure AI investments are consistently tied to business outcomes — laying the foundation for every other pillar of the Infosys AI First Value Framework for Insurance.

Concretely, this means:

A unified, enterprise-wide AI operating model with alignment between AI strategy, architecture and execution across LOBs

Faster deployment and scaling of AI use cases across underwriting, claims and distribution

Reduced duplication and improved governance across the insurance technology estate

Case Study : AI Strategy And Engineering

ENTERPRISE AI BLUEPRINT TURNS FRAGMENTED PILOTS INTO A PRIORITIZED ROADMAP FOR A U.S. INSURANCE CARRIER



Use Case

A leading U.S. insurance carrier spanning Workers' Compensation, E&S, and Reinsurance needed a structured, enterprise-wide approach to AI — one that translated ambition into execution through the right strategy, governance, architecture, and use case roadmap, while staying compliant with regulatory requirements.



What Infosys Built

Infosys defined the target AI reference architecture, technology stack, and a structured feasibility assessment methodology — scoring use cases on implementation complexity, business alignment, and readiness — to convert scattered AI ambition into a governed, prioritized roadmap.



The Challenge

AI initiatives were fragmented across business functions with no unified strategy, governance, or technology direction — and no structured framework existed to evaluate, prioritize, or scale use cases based on business value and feasibility, all while regulatory and risk requirements created adoption barriers.



Outcomes

- 1. Enterprise AI Blueprint**
Target architecture and technology recommendations, replacing siloed, ungoverned efforts.
- 2. 150+ AI Opportunities Prioritized**
Identified and ranked across business functions for phased execution.
- 3. Regulatory-Ready Foundation**
Governance and Compliance considerations built into the roadmap from day one.

Case Study : AI Strategy And Engineering

SCALING AI ENTERPRISE-WIDE: 80+ USE CASES, 45K+ HOURS SAVED FOR A MULTI-LINE MUTUAL INSURER



Use Case

A U.S. mutual holding corporation offering life, dental, vision, annuities, retirement, and life insurance needed to set up and scale an AI delivery model across enterprise functions — moving beyond isolated pilots to a repeatable operating model.



What Infosys Built

Infosys established an AI Factory operating model with dedicated PODs and governance, identified and quantified high-value opportunities, defined GenAI/RAG/Agentic AI use cases and target architectures, and executed end-to-end delivery using reusable accelerators with continuous monitoring and value tracking.



The Challenge

Fragmented processes made it hard to identify and scale AI opportunities, limited data visibility restricted actionable insights, organizational resistance slowed adoption, and insufficient lifecycle transparency weakened governance and value tracking.



Outcomes

- 1. 80+ Use Cases Identified**
Prioritized and quantified across business functions.
- 2. 45K+ Hours Saved**
Realized to date, with more savings already in the delivery pipeline.
- 3. Faster, Repeatable Delivery**
A structured AI Factory model driving consistent operational efficiency gains.

Case Study : AI Strategy And Engineering

REIMAGINING RISK & COMPLIANCE: 30% PRODUCTIVITY GAIN WITH AN AI-FIRST MODEL



Use Case

A North American multiline insurer driving enterprise value through technological innovation set out to reimagine its compliance function through process optimization, automation, and AI.



The Challenge

Teams spent significant time pulling information across systems, evidence and filings lacked standardization, manual rules created false positives and extra analyst effort, and limited automation made fraud detection and regulatory response slower than needed.



What Infosys Built

Infosys deployed an AI-first risk and compliance operating model that consolidates enterprise risk data for continuous scoring, automates evidence compilation, control testing, regulatory change review, and filing preparation — while keeping human experts focused on interpretation, high-risk exceptions, and governance.



Outcomes

- 1. 30% Productivity Gain**
Across risk and compliance review activities.
- 2. Faster Regulatory Response**
Stronger remediation tracking and turnaround times.
- 3. Better Audit Readiness**
Explainable decisions and standardized documentation improve fraud/privacy risk detection.

DATA FOR AI



CHALLENGE

Insurance data is rich, fragmented and hard to trust

Insurers sit on some of the deepest data estates in financial services — decades of policy records, claims history, actuarial tables, medical underwriting files, telematics feeds, agent notes and adjuster reports. Yet this data is scattered across legacy policy admin systems, siloed LOB databases, and formats ranging from structured mainframe records to handwritten claims notes and scanned

loss runs. A single commercial P&C account might have underwriting data in one system, claims history in another, and broker correspondence sitting in unstructured PDFs and emails nobody has indexed.

Without a trusted, AI-ready data foundation, even well-built models produce unreliable outputs — underwriting scores that don't hold up to audit, claims triage that misses fraud patterns, pricing that embeds hidden bias. The challenge is compounded by the sensitivity of insurance data itself: medical records for life and health underwriting, PII across claims files, and data that regulators expect insurers to fully account for when a decision is questioned. Carriers that treat data readiness as an afterthought end up with AI that looks sophisticated in a pilot and falls apart under regulatory or audit scrutiny.



WHAT WE DO

Turning insurance data into a trusted strategic asset

Infosys prepares both structured and unstructured insurance data — policy, claims, actuarial, underwriting, telematics and document-based — for AI model readiness. This starts with building AI-ready data platforms purpose-built for insurance data models, unifying policy, claims and party data that today sits in disconnected LOB silos across P&C, life, annuity, reinsurance and specialty lines.

Infosys applies AI-grade data engineering to make this data trustworthy at scale,

including data fingerprinting for full lineage and audit trail — critical for demonstrating to regulators exactly which data fed which underwriting or claims decision — and synthetic data generation, which lets carriers train and stress-test models on realistic underwriting and claims scenarios without exposing real policyholder PII or PHI.

To make sense of how policies, claims and parties relate to one another, Infosys draws on Insurance Genome to structure entity relationships across the insurance data landscape, converting fragmented records — a claimant across multiple policies, a broker across multiple accounts, a property across multiple coverage lines — into a governed, queryable asset. This foundation is what fuels accurate underwriting models, fraud detection engines, claims prediction and real-time pricing engines further along the value chain.



The value delivered

Trusted, audit-ready data foundations that satisfy regulatory scrutiny (NAIC, state DOIs, IFRS 17)

Faster model training and validation using synthetic data for sensitive underwriting and claims scenarios

Improved accuracy in pricing, underwriting and fraud models through cleaner, unified data across LOBs

Case Study : Data for AI

REAL-TIME COMPETITIVE INTELLIGENCE, AUTOMATED: FASTER STRATEGIC DECISIONS FOR A MIDWEST MUTUAL INSURER



Use Case

A Midwest-based multiline mutual insurer's leadership and product teams lacked a structured, real-time way to monitor competitor activity, market shifts, and regulatory developments — relying instead on ad-hoc research and periodic manual reports.



What Infosys Built

Infosys deployed an AI-powered competitive intelligence platform that aggregates news and source PDFs from assigned sources, consolidates headlines and summaries into a single email triggered via a conversational agent, and lets users select the sources and domains they want tracked.



The Challenge

There was no centralized, real-time view of the competitive landscape across product lines and geographies, and intelligence gathering was manual and sporadic, limiting strategic agility.



Outcomes

- 1. Faster Strategic Decisions**
Leadership equipped with timely, structured competitive intelligence.
- 2. Reduced Manual Research**
Significant effort saved across strategy and product teams.
- 3. Personalized, On-Demand Coverage**
Users tailor sources to their specific tracking needs.

Case Study : Data for AI

TURNING YEARS OF HISTORICAL DATA INTO ON-DEMAND INSIGHT FOR A MIDWEST MUTUAL INSURER



Use Case

The same Midwest-based mutual insurer's business stakeholders spent significant time manually querying, compiling, and interpreting historical data — slowing decision-making and strategic planning.



The Challenge

Historical data was siloed across systems and business lines, analysts spent disproportionate time on extraction rather than insight generation, and stakeholders lacked on-demand access to relevant trends and performance analytics.



What Infosys Built

Infosys deployed an AI-powered analytics platform that consolidates and harmonizes historical data across business lines and enables natural language querying — letting stakeholders extract insights without technical expertise.



Outcomes

- 1. Reduced Manual Effort**
Significant reduction in time spent on data compilation.
- 2. Self-Service Access**
Stakeholders get on-demand answers without relying on analysts.
- 3. Faster Decision-Making**
Insight generation replaces manual data wrangling entirely.

Case Study : Data for AI

FROM STATIC TREATY DOCUMENTS TO REAL-TIME NATCAT EXPOSURE INTELLIGENCE FOR A GLOBAL REINSURER



Use Case

Reinsurance treaty contracts exemplify the challenge of managing vast unstructured data — decades of treaty wordings, schedules, and peril coverage information dispersed across scanned files and fragmented repositories. Infosys ran a proof of concept for a leading global reinsurer, using an in-house platform to digitize treaties and layer a GenAI querying experience for underwriters, claims processors, and leadership.



What Infosys Built

Infosys digitized treaty contracts into a structured, searchable layer via Document AI and Neural Connect, applied GenAI for natural-language querying, enabled near real-time predictive exposure modeling by peril type, and delivered a conversational co-pilot plus real-time leadership dashboards — creating an integrated ecosystem connecting underwriters and claims processors.



The Challenge

Treaty and policy information remained siloed and largely undigitized, making exposure assessment across peril types slow and inconsistent; brokers and underwriters relied on manual lookups, and leadership had no real-time visibility into potential catastrophe losses — slowing turnaround and limiting proactive response.



Outcomes

- 1. 100% Treaty Digitization**
Static, scanned contracts converted to structured, searchable data.
- 2. Real-Time NATCAT Visibility**
Leadership dashboards provide immediate potential-loss insight for claims planning.
- 3. On-Demand Conversational Search**
Underwriters and claims teams query treaties instantly, cutting turnaround time.

PROCESS AI



CHALLENGE

Core insurance workflows remain manual and siloed

Underwriting, claims adjudication, policy servicing and renewals still rely heavily on manual review, back-and-forth between systems, and tribal knowledge held by experienced underwriters and adjusters. A commercial underwriter might spend hours pulling loss runs, checking coverage guidelines and cross-referencing risk appetite before issuing a quote; a claims

adjuster might juggle FNOL intake, coverage verification and reserve-setting across three disconnected systems before a single claim moves forward.

Automation efforts to date have often stopped at task-level RPA — automating a single step like data entry — while leaving the end-to-end workflow largely unchanged. The result is longer cycle times, inconsistent decisions across underwriters and adjusters handling similar risks, and rising loss adjustment expense that isolated AI point-solutions haven't meaningfully reduced. Without redesigning the whole workflow, insurers end up with faster individual steps inside a process that is still fundamentally slow.



WHAT WE DO

Redesigning insurance workflows around AI agents and human expertise

Infosys transforms core insurance processes by integrating AI agents alongside underwriters, adjusters and service teams, with a focus on redesigning the end-to-end workflow rather than automating isolated tasks. This means rethinking the full journey — from submission to bound policy, or from FNOL to claims settlement — as a single connected process rather than a series of disconnected handoffs.

Domain-aware agents, trained on insurance-specific context such as line-of-business

rules, coverage logic, regulatory requirements and historical claims patterns, work alongside human experts rather than replacing their judgment. In underwriting, this looks like agents pre-filling risk assessments, flagging exposure concentrations, and surfacing comparable risks so underwriters can focus on pricing judgment rather than data assembly. In claims, it looks like agents triaging FNOL submissions by severity and complexity, verifying coverage automatically, flagging likely fraud indicators, and routing straightforward claims toward fast-track settlement while escalating complex ones to experienced adjusters.

This human-plus-agent model drives step-change improvements in cycle time and consistency, because the redesign happens at the process level — across underwriting, claims and policy servicing — rather than one automated step bolted onto an otherwise unchanged workflow.



The value delivered

Reduced claims cycle time and lower loss adjustment expense

More consistent underwriting decisions at scale across teams and geographies

Improved combined ratio through faster, more accurate end-to-end processing

Case Study : Process AI

AUTOMATING SUBPOENA RESPONSE: 900+ HOURS SAVED FOR A LIFE & GROUP INSURER



Use Case

A leading Midwest North America Life & Group insurer's legal team needed help responding to subpoena requests — a process requiring heavy human intervention that caused delays and reputational risk.



What Infosys Built

Infosys built an AI-first automation that extracts data from subpoenas, identifies the requested documents and relevant departments, emails departments and follows up on missing items, auto-redacts PII, combines responses into a single deliverable, and provides a daily status summary.



The Challenge

Significant time was spent reading subpoena documents and identifying the right departments, document structures varied widely, multiple follow-ups were needed with department contacts, and manual PII redaction led to inconsistencies.



Outcomes

- 1. 900+ Hours Saved Annually**
Freed from manual document handling and follow-ups.
- 2. Better Compliance**
Automated, consistent PII redaction reduces risk.
- 3. Freed-Up Capacity**
Legal team refocused on higher-value, judgment-based work.

Case Study : Process AI

FROM MANUAL CHECKS TO AUTO-VALIDATED POLICIES: 2,000+ HOURS SAVED FOR A DENTAL & VISION INSURER



Use Case

A leading Midwest North America dental and vision insurer found document validation a repetitive, time-consuming process driving up turnaround time — prompting a push to automate it.



The Challenge

Validation was a manual, repetitive activity, and the resulting slow processing directly increased turnaround time for policy issuance.



What Infosys Built

Infosys applied AI's computer-use capability to extract data from illustration and application forms, compare it against underwriting system records, flag mismatches and auto-trigger agent emails for updated documents, then revalidate and route for underwriter approval or issuance.



Outcomes

- 1. 2,000+ Hours Saved Annually**
Through automated validation workflows.
- 2. Fewer Errors**
Consistent, automated data reconciliation replaces manual checks.
- 3. Faster Policy Issuance**
Reduced turnaround from mismatch identification to approval.

Case Study : Process AI

PREPARING FOR SCALE: AI/ML-DRIVEN DISABILITY CLAIMS TRANSFORMATION FREES 5 FTES FOR A TOP 5 LIFE & DISABILITY INSURER



Use Case

A top 5 U.S. Life & Disability insurer wanted to transform its disability claims area ahead of a projected rise in claims volume and the manual effort required to process cases.



The Challenge

Manual data entry, no centralized view of case data during decision-making, and significant team time spent on non-value-add activities were straining the claims process.



What Infosys Built

Infosys combined automation tools with AI/ML to auto-extract data from claim documents into application fields, deliver a single-pane unified view of insured disability progress, generate AI/ML-suggested decisions from historic data, automate payment setup, and auto-trigger reminders for missing documents.



Outcomes

- 1. 5 FTEs Freed Up**
Redeployed from manual processing to higher-value work.
- 2. Faster, More Accurate Decisions**
Automated entry and AI-suggested decisioning reduce errors.
- 3. Stronger Fraud Detection**
Insured progress tracking surfaces fraudulent claims proactively.

AGENTIC LEGACY MODERNIZATION



CHALLENGE

Core insurance platforms carry decades of technical debt

Many carriers still run critical policy administration, billing and claims systems built on legacy mainframe or early-generation platforms, often predating current Guidewire or cloud-native cores. These systems hold embedded business logic — rating algorithms built up over decades of state filings, underwriting

guidelines encoded into undocumented business rules, regulatory logic that few current employees fully understand because the people who built it have long since left.

Replacing these systems outright is high-risk, slow and expensive, a core policy admin migration can take years and put an entire book of business at risk during cutover. Leaving them untouched is its own risk: it limits the insurer's ability to launch new products quickly, respond to regulatory changes, or integrate modern AI capabilities that require clean, accessible data and APIs the legacy system was never built to provide. Carriers are caught between the cost of full replacement and the growing drag of standing still.



WHAT WE DO

Modernizing core insurance systems without disruption

Infosys uses AI agents to reverse-engineer existing insurance technology estates — including legacy policy administration, billing and claims platforms — to understand the business intent embedded in decades-old code: rating logic, underwriting rules, regulatory filing requirements, exception-handling built up over years of edge cases.

Rather than a disruptive rip-and-replace, this intent is used to progressively modernize these systems while the book of business stays live — extracting and documenting rating engines, migrating logic to modern architectures like Guidewire incrementally, and reducing technical debt module by module instead of all at once. This lowers the risk profile of modernization dramatically compared to a big-bang replacement, since each step can be validated against the legacy system's actual behavior before cutover.

The result is a core estate that carries less technical debt and gives the insurer real agility — to launch new products faster, adapt to new state regulations, and plug in modern AI capabilities across underwriting and claims that a legacy-only estate simply can't support.



The value delivered

Reduced technical debt on core policy, billing and claims platforms

Faster, lower-risk migration to modern insurance cores like Guidewire

Improved agility to launch new products and respond to regulatory changes

Case Study : Agentic Legacy Modernization

INDUSTRIALIZING POLICY MIGRATION: 99.2% F1 ACCURACY, 50%+ FASTER BRS CREATION FOR A U.S. LIFE INSURER



Use Case

A leading U.S. Life Insurance firm managing multiple Policy Administration Systems sought to accelerate policy migration and modernization — needing a faster, more reliable way to extract product rules and requirements from legacy systems to feed its Oracle Life (OPAS) migration, across a fragmented Term, Whole, and Universal Life portfolio.



What Infosys Built

Infosys deployed its Policy Migration Solution (IPMS) using Graph RAG, AWS Bedrock Claude Sonnet, and Neptune DB in a two-phase engagement — assessing functional and technological processes, then building a reusable prompt library for attribute-specific retrieval, generating BRS documents against the client's template, and tracking quality via F1/balanced F-score KPIs.



The Challenge

Requirement extraction was entirely manual, dependent on scarce SME bandwidth and legacy code access, and product specifications were scattered across 1,132 functional documents (~9,100 pages) with no standardized way to convert them into migration-ready requirements — risking missed data gaps and timeline delays.



Outcomes

- 1. 99.2% F1 Score**
High-precision, high-recall requirement extraction at scale.
- 2. 50%+ Faster BRS Creation**
15 functionalities delivered in 12 weeks vs. ~64 person-weeks manually (81.25% effort savings).
- 3. 2.7K Reusable Attributes**
A scalable library enabling reuse across future migrations.

Case Study : Agentic Legacy Modernization

GENAI-POWERED REVERSE ENGINEERING CUTS INFORMATICA ETL DOCUMENTATION EFFORT BY 70%



Use Case

The client was running multiple data strategy initiatives across domains (Data, Field, HR, and others), migrating on-prem data to Data Mesh and Databricks — requiring legacy transformation rules to be reverse-engineered from 1,000+ Informatica ETL mappings in Data and Field alone, plus 200 more in HR.



What Infosys Built

Infosys developed a GenAI solution that extracts transformation logic from exported Informatica XML mappings using a RAG-based approach over Neptune DB, built as an end-to-end batch solution — from ETL export through graph creation to GenAI summarization — producing Excel output for SME validation before development handoff.



The Challenge

Reverse-engineering transformation logic from a large volume of Informatica ETL mappings was heavily SME-dependent, slow, and drove up overall modernization program costs.



Outcomes

- 1. ~70% Effort Reduction**
In reverse engineering and rule documentation from Informatica.
- 2. Reduced Cross-Team Dependency**
Less bottlenecking between Infra, App, and other teams.
- 3. Faster Modernization Handoff**
Validated rules ready for development sooner, at lower cost.

Case Study : Agentic Legacy Modernization

SCALING COPILOT ACROSS THE SDLC: UP TO 70% FASTER ANALYSIS AND DEVELOPMENT



Use Case

The client needed to standardize GitHub Copilot usage across projects and the enterprise for similar technology stacks — scaling AI across the SDLC while preserving architectural guidelines, engineering standards, and guardrails.



What Infosys Built

Infosys developed GitHub Copilot custom agents with dedicated skills across SDLC functions — Tech Analysis, API Development (Experience and Domain APIs), Front-End Development (ReactJS/NextJS/Node on the custom LUNA framework), Orchestration (Flowable), Automated Functional Testing, and Data Engineering — backed by training, socialization, and usage monitoring.



The Challenge

Copilot usage was inconsistent across projects, with no standardized, scalable way to apply AI across the SDLC without compromising enterprise engineering standards.



Outcomes

- 1. ~70% Faster Analysis & Documentation**
The largest gains, in upfront SDLC phases.
- 2. 40–60% Faster Back-End Development**
Consistent gains across API and orchestration work.
- 3. 30–50% Effort Reduction**
Across UI, Flowable, and Data Engineering, with improved consistency across teams.

PHYSICAL AI



CHALLENGE

Risk signals increasingly originate outside the four walls of the enterprise

Insurance risk is no longer just historical and actuarial — it's live, sensor-driven and physical. Telematics devices continuously stream driving behavior for auto insurers; IoT sensors monitor temperature, water and structural integrity in commercial property;

connected vehicles and wearables generate real-time signals relevant to auto and life/health underwriting; drones capture property condition after catastrophic weather events far faster than a human adjuster can drive to the site.

Most carriers still treat this data as a bolt-on to traditional underwriting and claims processes — a telematics score added after the fact, drone imagery reviewed manually alongside a paper claim file — rather than a core input engineered into pricing and claims workflows from the start. This leaves real value on the table: the ability to price risk in real time, catch property risk before it becomes a claim, and settle claims faster using objective sensor and imagery data instead of waiting on manual inspection.



WHAT WE DO

Embedding AI into the physical risk landscape

Infosys designs intelligent products and embeds AI directly into the physical devices and sensor networks insurers increasingly rely on — telematics platforms, IoT property sensors, connected vehicle data feeds and drone-based inspection systems — so these devices don't just collect data but interpret risk and trigger action in real time.

This includes building digital twins of insured commercial properties and fleets, so risk engineers can model exposure and simulate loss scenarios before they happen rather than only after a claim is filed. It includes robotics-assisted and drone-based claims inspection, which lets adjusters validate property damage from catastrophic events like hurricanes or wildfires in hours instead of weeks. And it includes edge intelligence embedded in telematics and IoT devices, enabling usage-based auto and commercial insurance pricing that updates continuously rather than at renewal.

Together, these capabilities help carriers reimagine underwriting and claims at the point where the digital and physical converge — moving risk assessment from retrospective and periodic to continuous and predictive.



The value delivered

Real-time, usage-based risk pricing across auto, commercial property and specialty lines

Faster, more accurate claims validation through sensor and drone-based data

Proactive loss prevention reducing claims frequency and severity

AI TRUST



CHALLENGE

Insurance is one of the most trust-sensitive industries for AI

Underwriting and claims decisions directly affect people's coverage, pricing and financial protection — which means bias, explainability and regulatory defensibility aren't optional considerations bolted on later; they have to hold up when a regulator, a policyholder's attorney, or a state insurance commissioner asks how a decision was made. This is especially acute in life and health underwriting, where an

AI-driven decision can affect whether someone gets coverage at all.

Regulators across the US (NAIC model bulletins, state DOI scrutiny) and Europe (EU AI Act's high-risk classification for insurance pricing and underwriting, GDPR) are tightening oversight of algorithmic decision-making, demanding explainability, auditability, and non-discrimination. Meanwhile, customers and advocacy groups are increasingly wary of "black-box" decisions affecting their coverage or claims outcomes. Carriers that treat AI governance as a compliance checkbox rather than an engineering discipline risk regulatory action, reputational damage, and an erosion of policyholder trust that's very difficult to rebuild once a discriminatory pricing or claims-denial pattern becomes public.



WHAT WE DO

Embedding responsible AI across the insurance AI lifecycle

Infosys ensures AI systems and agents used across underwriting, claims and pricing embrace responsible, secure and ethical AI practices across their entire lifecycle — not as a final review step, but built into how models are designed, tested and deployed from the outset.

This starts with bias detection and fairness testing during data collection and model training, ensuring underwriting and pricing variables don't encode proxy discrimination. At Infosys, we build explainability into model

architecture so decisions on claims, pricing, and risk scoring can be clearly justified to regulators, auditors, and customers alike. Robust governance structures — model risk committees, documented approval workflows, and version-controlled audit trails — ensure accountability at every decision point. We implement continuous monitoring for model drift, performance degradation, and emerging bias post-deployment, paired with human-in-the-loop checkpoints for high-stakes decisions. Data privacy and security controls are woven in to meet GDPR, CCPA, and sector-specific regulations. The result is an AI lifecycle where trust, compliance, and performance are designed together, not traded off against each other.

This lets carriers scale AI across underwriting, claims and pricing with confidence, knowing the governance framework was built for insurance's specific regulatory and ethical bar — not adapted from a different industry after the fact.



The value delivered

Demonstrable compliance with NAIC, EU AI Act, GDPR, and evolving state/national insurance regulations

Reduced bias risk in underwriting and pricing models, validated before deployment

Stronger policyholder and regulator trust in AI-driven decisions

Lower bias-related litigation and reputational exposure through proactive fairness testing

CULTURAL FOUNDATIONS: PREPARING THE INSURANCE WORKFORCE

The Infosys AI First Value Framework for Insurance provides the technical and operational foundations for scaling AI across underwriting, claims and distribution. Yet technology alone isn’t enough — sustainable deployment also depends on the underwriters, adjusters, actuaries and distribution managers who use it every day. In insurance this is particularly acute: the professionals most directly affected by AI are also the domain experts whose knowledge is essential to making AI systems work correctly in the first place.

As AI becomes embedded into core insurance processes, it fundamentally reshapes how work gets done. Underwriting shifts from manual risk assessment toward AI-assisted judgment; claims adjudication shifts from sequential case management toward triage-and-escalate models; actuarial work shifts from periodic model-building toward continuous validation and governance. The goal is not replacement — it is augmentation, and over time, a genuine redesign of what these roles involve and how they create value.

Workforce Transformation: Role Evolution

Current Role	AI-Augmented Role	What Changes
Underwriter	AI-Augmented Risk Advisor	Shifts from data gathering and manual risk assessment to overseeing AI-driven risk models, focusing human judgment on complex and novel risks where AI confidence is low
Claims Adjuster	AI-Assisted Decision Maker	Moves from end-to-end case management to exception handling and complex case oversight, with AI managing routine assessment, documentation and settlement
Actuary	AI Mode Steward	Evolves from building models to validating, governing and continuously improving AI pricing and reserving models — with explainability and fairness as core responsibilities
Distribution Manager	AI-Enabled Growth Leader	Gains real-time performance intelligence, AI-powered lead scoring and agent copilot tools — shifting from reactive support to proactive growth enablement
Broker/Agent	AI-Powered Advisory Partner	Shifts from manual quote comparison and paperwork-intensive placements to relationship-led advisory, with AI streamlining quote aggregation, risk matching, and proposal creation

For carriers, this presents both a challenge and an opportunity. Many insurance organizations already experience a gap between AI capability and workforce readiness: an underwriting team may have access to an AI-powered risk assessment tool but lack the confidence to trust its output over decades of manual judgment, or a claims team may have fraud-detection agents in place without adjusters trained to interpret and act on the flags they raise. In other cases, roles built for a pre-AI workflow simply aren’t aligned to an AI-enabled process, creating friction in adoption and leaving much of the technology’s value unrealized.

Infosys supports insurers in preparing their organizations for AI through a structured approach to cultural and workforce transformation, focused on three areas:

AI literacy and data fluency

Structured reskilling programmes that equip underwriters, adjusters and actuaries to work effectively alongside AI systems, interpret model outputs, and identify when a recommendation requires human override.

Human and agent collaboration models

Clear frameworks defining where AI acts autonomously, where it recommends and humans decide, and where human judgment takes precedence, tailored to each insurance workflow and regulatory context.

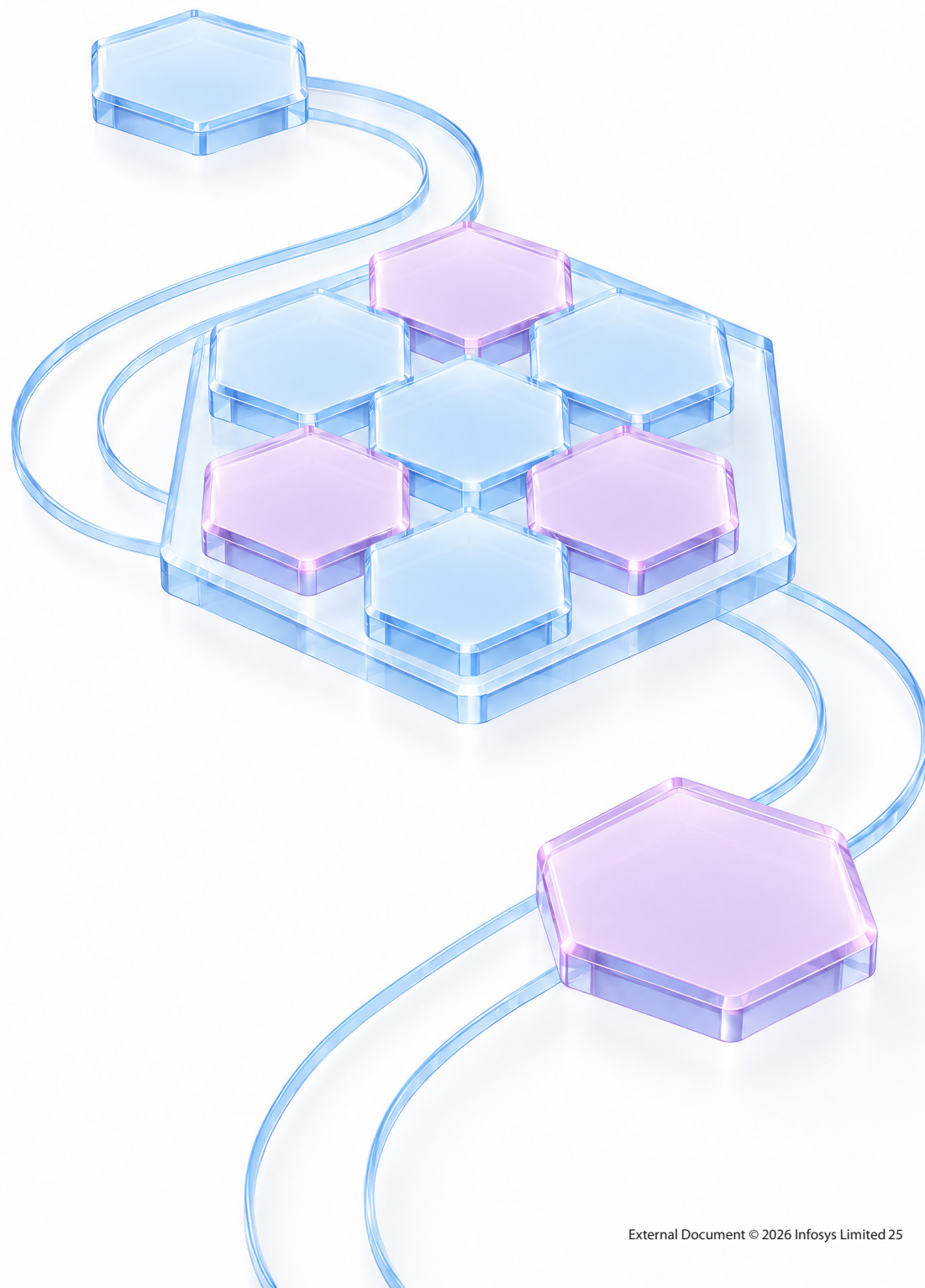
Change management

Active stakeholder engagement, transparent communication about AI’s role, and performance management systems that incentivize AI adoption rather than penalize the redistribution of tasks.

This work requires active leadership ownership, not delegation to HR or a training function. Carriers succeeding with enterprise AI have board-level accountability for AI governance, C-suite sponsorship of reskilling programmes, and incentive structures that reward AI-enabled outcomes rather than preserving legacy ways of working — particularly important given regulatory expectations (NAIC, state DOIs) around explainability and human accountability for AI-influenced underwriting and claims decisions.

Cultural change of this kind is not a one-time initiative. It requires sustained investment, leadership alignment, and a clear, visible link between AI adoption and the outcomes insurance leaders already track — combined ratio, claims cycle time, underwriting accuracy, retention.

The carriers who will lead the next decade are not just those with the best AI technology. They are the ones where underwriters trust the models, claims teams collaborate with agents, and leadership owns both the opportunity and the accountability.





For more information, contact askus@infosys.com



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