LTM

The Age of **Applied AI**

LTM Insurance Insights

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Foreword

"In the midst of chaos, there is also opportunity."

This timeless insight from the ancient Chinese military treatise, The Art of War, by Sun Tzu, remains highly relevant even today. The IT services industry stands at an inflection point. Multiple macro forces are converging to reshape how enterprises operate, innovate, as well as deliver value. And artificial intelligence sits at the center of this transformation. Post-globalization trends, capital rationalization, vicissitudes of trade tariffs, and shifting talent dynamics are redefining business models across industries, including insurance, within a USD 3 trillion AI economy. The theme, 'The Age of Applied AI,' captures the pulse of our times. It reflects the urgency and the transformative power of today's technological breakthroughs.

For insurers and ecosystem partners, these shifts create both headwinds and tailwinds. Traditional service delivery models are being disrupted by AI-led automation, resulting in a compression of core IT services. Yet, this very disruption is also unlocking new avenues for growth. They include: AI-enabled transformation of underwriting, claims, customer engagement, and the convergence of IT with operational technology.

Responsible AI is set to define the next era of insurance, as the sector leans deeper into intelligent automation. The true differentiator will be how insurers sustain progress while embedding accountability and purposeful automation at scale.

As artificial intelligence continues to advance, the insurance industry is witnessing the emergence of a new lexicon of risks, i.e., vibe hacking. As digital transformation accelerates, the rise in cyber threats has made cyberinsurance indispensable for mitigating financial and reputational risks. Addressing these complexities has become increasingly challenging, requiring enhanced risk assessment capabilities and creative approaches to coverage.

Simultaneously, the advent of autonomous vehicles and connected car technologies has increased the relevance of embedded auto-insurance, requiring policies to adapt and keep pace with new risks and liabilities. Both these emerging areas within insurance are poised for significant growth. The industry must evolve its offerings to address new technological nuances and ensure protection for insurers and customers.

To remain competitive and tap into future trends, insurers must enhance and integrate their technology-driven policies. This involves supercharging their strategies to create cohesive, forward-looking insurance solutions that cater to the evolving demands of the marketplace.

Across the landscape, AI-native players, hyperscalers, platform ecosystems, and IT services providers are moving swiftly to capture this opportunity via AI. At LTM, our AI journey is focused on industrialization, not experimentation. With the launch of BlueVerse™ in 2025, we introduced an AI-native ecosystem that enables insurers to move from concept to value at scale.

We are uniquely positioned to help insurers and intermediaries leverage this transformation through an expertise-led, human-in-the-loop approach at the intersection of domain and technology. Artificial intelligence-led capabilities are at the core of every transformation across the insurance value chain, enabling a deep dive into process redefinition to meet the demands of future industry dynamics. We have embedded AI across HR, customer service, and operations. Our workforce is trained in Generative AI, and the company has deployed AI-powered career planning and mentorship tools to foster smart learning.

Our BlueVerse AI platform, hosting over 300 deployable agents, demonstrates our commitment to tracking organizational journeys and ensuring readiness for future opportunities. With strategic investments like Voicing.AI, LTM is powering intelligent and empathy-driven conversations in critical phases of customer journeys.

Such advancements are enabling more depth in customer-led communications from smarter policy servicing to predictive claims management and risk modeling. Our innovation journey is not limited to transforming the insurance value chain, but is also extended and envisioned to encompass how we conceptualize our offerings for insurers keen on establishing global capability centers (GCCs). Our GCC-as-a-Service offering helps enterprises transform into global innovation hubs, leveraging scalable, responsible AI for competitive advantage, along with providing experts with deep industry know-how.

The insurance industry stands at the brink of a transformative era, where artificial intelligence, responsible innovation, and human ingenuity converge to unlock unprecedented potential. At LTM, we are proud to lead this paradigm shift, enabling insurers to navigate complexity, deliver value, and create meaningful customer experiences. By embracing AI as a catalyst for progress, we are empowering our customers to innovate and lead in a world where change is the only constant.

Venu Lambu

CEO and Managing Director
LTM

Editorial

Navigating the New Frontier:
AI as a Strategic Imperative in Insurance

The AI economy is currently locked in a high-stakes cycle of trillion-dollar investments, surging GPU demand, and massive data center expansions. While some observers hail this as a groundbreaking vision, others caution against the potential for a bubble. For the insurance industry that is facing, unprecedented risk and opportunity, this is a strategic inflection point that demands decisive action. With 'The Age of Applied AI' as our theme, we spotlight the transformative role of AI in redefining insurance and driving industry-wide progress.

While insurers today operate in an environment defined by turbulence, a new generation of systemic risks has emerged. Ranging from climate volatility and sophisticated cyber threats to geopolitical instability and trade disruptions, these factors have rewritten the rules of underwriting and risk management. To navigate this landscape profitably while serving customers effectively, leveraging applied AI in the technological core is crucial.

From Pilots to Profitable Application

A critical question arises in this AI-dominant era: Does everything require AI-powered automation? Could simpler, rule-based systems still suffice? The answer lies in strategic application. AI does not have to be considered the universal replacement for business problems; however, it is a powerful capability that can be deployed where it drives the most value. For instance, while handling routine, high-volume tasks, rule-based automation remains efficient. In scenarios involving complex challenges, unstructured data, predictive modeling and AI is indispensable.

The rush to deploy AI has left many organizations stuck with pilots where proofs of concept multiply, but very few scale to deliver tangible return on investment. The key to breaking this cycle is to anchor AI initiatives in clear business outcomes. Future-oriented insurers are successfully deploying AI across the value chain in several key areas:

Predictive Risk Mitigation

By integrating AI with advanced weather analytics, insurers can move from reactive claims processing to proactive policyholder protection. Thus, they can issue timely warnings and suggest preventive measures before a catastrophic event, such as a hurricane or a flood.

Augmented Customer Experience

AI augmentation in comparing various policies, instant chat, and contact center support ultimately improves the experience of the end user.

Optimized Brokerage and Operations

AI is transforming the brokerage business by enabling brokers to anticipate client needs, advise on complex risk portfolios, and optimize placements. Hence, it provides more opportunities for cross-selling and upselling.

Intelligent Document Processing

Internally, **Intelligent Document Processing (IDP)** is totally changing back-office functions, while AI-powered tools are accelerating software development lifecycles and transforming core systems.

Restructuring for an AI-Native Future

One cannot lay bullet-train tracks over a crumbling subway and expect it to run at full speed. Similarly, AI needs its own foundation, such as data highways, governance grids, and architectural intent. Without rebuilding the city beneath it, innovation stays stuck in traffic.

Recent HFS research commissioned by LTM underscores this point. The findings reveal a growing intent among enterprises to embed AI at the highest levels of strategy and execution. 51% of enterprises plan to create new C-suite roles or AI-specific board committees to ensure top-down governance. 44% expect to restructure their P&L and functional leadership, aligning AI ownership directly with revenue impact. Furthermore, 39% are reconsidering their technology operating model to support agile, scalable AI adoption.

These are not minor adjustments; they signal a deliberate redesign of the enterprise for an AI-native world. Looking ahead, the convergence of AI with emerging technologies like quantum computing promises to unlock even more profound capabilities, potentially revolutionizing everything from complex risk modeling to drug discovery and beyond.

The age of applied AI is already reshaping the insurance ecosystem. Some insurers are making strides with intelligent innovations and collaborating with tech partners, while others are still testing the waters. It is time to build organizational structures, talent pipelines, and technological foundations that are necessary to overcome the current turbulence as well as to lead the future of insurance.

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Double-Edged Sword of AI in Cyber Insurance: Mitigating Risks While Preventing Attacks

Author

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In September 2025, cybersecurity faced one of its most disruptive supply chain breaches. Attackers compromised multiple npm packages with billions of weekly downloads. This was not a sloppy smash-and-grab. It was a precision strike. Phishing, poisoned code, and AI-generated content worked together as one seamless attack that slipped past traditional defenses. The result was a strike that disrupted trusted software channels and signaled a new era of machine-powered deception.[1]

In today's digital economy, technology is the power grid of modern business. Cloud, AI, IoT, and hyperconnected supply chains all draw current from it. Every new line adds capacity and creates a fault line waiting to trip. While yesterday's cyberattacks caused downtime and data theft, today's strikes trigger blackouts across the enterprise, putting operational integrity, customer trust, compliance, and shareholder value at stake.

This is where cyber insurance faces its moment of reckoning.

As AI strengthens the resilience of carriers and insureds alike, it simultaneously empowers adversaries to launch stealthier, faster, and more targeted attacks. The question is no longer whether AI will shape the future of cyber risk, but how insurers, regulators, and enterprises will recalibrate strategies in this high-stakes equilibrium.

According to a comprehensive study by Next Move Strategy Consulting, the cyber insurance market is set to experience significant growth, with projections estimating USD 35.21 billion by 2030, driven by a robust compound annual growth rate (CAGR) of 17.1%.[2] This highlights the increasing importance of cyber insurance as a critical component of financial security in the evolving digital landscape.

Balancing innovation with accountability will define the next chapter of cyber insurance.

Building Digital Resilience Through Smarter Cyber Insurance

Cyber insurance has moved from being a financial hedge to a strategic resilience lever. For the insured, it plays two critical roles. First, it cushions the financial and reputational fallout of incidents that technology cannot always prevent, such as ransomware, data exfiltration, algorithmic manipulation, or supply-chain breaches. Second, it increasingly incentivizes stronger controls: carriers today demand demonstrable investments in Zero Trust, endpoint security, and continuous risk quantification as a prerequisite for coverage.

Beyond business interruption, the exposure is multi-layered. An AI system making flawed credit or underwriting decisions due to adversarial inputs creates liability risk. IoT-driven industrial assets hacked into disruption mode generate safety and environmental exposures. Generative AI missteps, right from data leakage to IP infringement, carry legal and compliance implications. In each case, insurance steps as a catalyst for better governance and cyber hygiene.

Cyber insurance could be considered an heir to a broader "resilience economy," where insurers must embed proactive controls and continuous exposure management into their service stacks. HFS Research[3] and Munich Re's 2024 report, "Cyber Insurance: Risks and Trends," warns of rising attack complexity and supply chain collapse. This pushes cyber insurance toward its structural limits, forcing reinsurers and carriers to recalibrate capacity, premiums, and risk corridors.

Generative AI missteps, right from data leakage to IP infringement, carry legal and compliance implications. In each case, insurance steps in as a catalyst for better governance and cyber hygiene.

AI as the Next Frontier in Cyber Risk Underwriting

As cyber threats evolve faster than traditional actuarial models can adapt, AI has emerged as a critical enabler for cyber insurance. Its capabilities extend well beyond automation and reshapes how risk is sized, priced, and managed across the policy lifecycle.

On the front end, AI-driven threat intelligence helps insurers parse massive datasets—from dark web chatter to vulnerability disclosures—to anticipate potential attack vectors. Natural language processing (NLP) enables insurers to continuously scan unstructured data such as breach reports, regulatory filings, and customer complaints, turning disparate signals into actionable insights.

In underwriting, machine learning models can assess an organization's cyber posture in near real-time, factoring in patch cadence, endpoint visibility, access controls, and third-party exposure. This moves beyond static questionnaires to dynamic, evidence-based scoring. Predictive analytics allows underwriters to simulate breach scenarios and quantify potential losses in financial terms, aligning risk pricing with actual exposure.

AI also plays a role in behavioral analysis, i.e., detecting anomalies in network traffic or insider activity that may point to systemic weaknesses. Over time, this feedback loop creates a richer risk profile that can inform both premium setting and tailored policy terms.

Finally, generative AI is emerging as a tool for scenario modelling, for instance, stress-testing "black swan" events such as coordinated supply-chain attacks or adversarial AI exploits. For insurers, this means moving from backward-looking actuarial models to forward-looking, adaptive underwriting frameworks.

The advent of AI agents marks a fundamental shift in cyber underwriting. Unlike traditional AI models that address narrow tasks, AI agents operate autonomously. They bring together a spectrum of functions like risk data collection, exposure analysis, decision support, and even adaptive actions within a structured governance framework. For underwriters, this means moving from static, point-in-time assessments to a dynamic, continuous evaluation of an insured's cyber posture, enabling more precise pricing and policy design.

AI equips cyber insurers to move from reactive risk transfer to proactive risk partnership. This enables more accurate coverage, fairer pricing, and greater resilience for the insured.

Use cases

AI in Cyber Insurance: From Reactive to Proactive Risk Management

Risk Management

Intelligent Risk Profiling	**Monitors Cyber Health, Adjusts Premiums**
AI-enhanced Fraud Detection	**Red Flags, Saves Costs**
Real-time Threat Monitoring	**Scans for Threats, Reduces incidents**
Automated Claims Triage	**Speeds Resolution, Reduces Manual Effort**
Predictive Scenario Modeling	**Simulates Events, Manages Capital**
Cyber Insurance as Prevention	**Security Scorecards, Guides Remediation**

1. Intelligent Risk Profiling for Underwriting

▶ **Use Case:** Insurers can use AI agents to monitor a company's cyber health in real-time. This includes examining how quickly patches are applied, what the endpoint logs reveal, where supply chain risks lie, and even whether sensitive data is appearing on the dark web.

▶ **Impact:** Instead of relying on static questionnaires, underwriting becomes a living, dynamic process. Premiums are adjusted based on an organization's actual cyber hygiene, rewarding those that invest in strong security and cut down on premium leakage.

2. AI-Enhanced Fraud & Misrepresentation Detection

▶ **Use Case:** AI models review policy applications and spot red flags, such as inconsistent information, unusual claims histories, or high-risk vendor ties.

▶ **Impact:** Fraud can be detected early in the underwriting process, saving costs and protecting portfolio quality.

3. Real-Time Threat Monitoring for Policyholders

▶ **Use Case:** AI agents act like round-the-clock sentinels, scanning for phishing attempts, malware, or stolen credentials that target insured companies. Alerts flow directly to the insurer's dashboard and the client's SOC.

▶ **Impact:** Insurers go beyond simple payouts by helping clients reduce the likelihood of incidents. This builds trust, lowers claims, and creates stronger, stickier relationships.

4. Automated Claims Triage and Decisioning

▶ **Use Case:** Tools like NLP and OCR pull data from breach notifications, regulatory filings, and incident reports. Machine learning models then classify the severity and suggest first-line claim decisions.

▶ **Impact:** What once took weeks can now be resolved in days. Customers get faster responses, regulatory deadlines are met, and insurers save significant manual effort.

5. Predictive Scenario Modeling with Generative AI

▶ **Use Case:** Generative AI runs simulations of major events such as ransomware waves, IoT hacks, or AI-driven fraud campaigns, to understand how risks accumulate across portfolios.

▶ **Impact:** This gives insurers and reinsurers better visibility to stress-test exposures, set coverage limits, and manage capital with more confidence. It is particularly vital when tackling systemic risks.

6. Cyber Insurance-as-a-Preventive-Service

▶ **Use Case:** As part of their coverage, policyholders receive AI-driven security scorecards and remediation guidance. For example, AI agents might recommend patch schedules or flag misconfigured cloud assets.

▶ **Impact:** The insurer shifts from being a reactive payer to an active partner in resilience. Claims severity goes down while offerings become more distinctive in a crowded market.

AI-Powered Cyber Insurance

Strategic Benefits Across the Ecosystem

Insurer

- Sharper underwriting based on real-time exposure.
- Fraud defense at scale (early detection of anomalies).
- Faster claims processing via automated triage.
- AI stress-tests systemic events.

Reinsurer

- Stronger accumulation management (map correlated risks).
- Predictive risk visibility (forecast threats for better decisions).
- Data-driven capital adequacy (support disciplined underwriting).
- Operational efficiency (anticipate risk concentration/shifts).

Insured

- Dynamic risk partnership (AI flags vulnerabilities early).
- Fairer pricing reflecting evolving cyber security posture.
- Trust multiplier (transparency boosts confidence).
- Operational guidance (AI-driven defense recommendations).

AI, Compliance, and the Coverage Gap: A Strategic Perspective for Carriers

As enterprises accelerate AI adoption, compliance and legal exposure have moved to the top of their risk agenda. Most policies today stop short of fully covering AI governance failures. Traditional cyber or professional liability policies address data breaches, system outages, and negligent errors. Regulatory missteps such as improper model use, biased decisions, or failure to comply with AI audits are often exclusions or partially sub-limited.

Forward-looking carriers are piloting coverage extensions. These may include advisory services, regulatory defense costs, or fines related to AI misuse, tied to clear usage parameters.

The reward is clear. For insureds, coverage mitigates financial and reputational fallout. For carriers, it strengthens client relationships and positions them as strategic partners in AI adoption.

The calculus is one of risk versus reward. Expanding coverage without strong governance exposes insurers to systemic liability. Structured policies tied to AI monitoring and ethical guardrails create new commercial opportunities and reinforce underwriting discipline.

In short, coverage for AI compliance is emerging. It functions less as a safety net and more as a strategic accelerator aligning legal, regulatory, and business interests.

Conclusion:

Building Resilience in the Age of AI-Driven Cyber Threats

AI is reshaping both sides of the cybersecurity equation: A. Powering sophisticated attacks; B. Enabling sharper, faster defenses. In this volatile environment, cyber insurance has evolved from a financial safeguard into a strategic pillar of resilience. It pushes organizations to strengthen their security posture, think proactively about risk, and build operational trust.

AI-driven insights are transforming underwriting, fraud detection, and threat prediction, turning insurers from reactive claim-settlers into active resilience partners. Yet, the same intelligence that powers innovation brings new challenges, such as ethical governance, regulatory scrutiny, and data transparency.

The future of cyber insurance will hinge on how well the ecosystem balances agility with accountability. True resilience will come from effective collaboration between insurers, reinsurers, and enterprises. The whole insurance value chain, along with clients, will create a digital environment where technology and trust reinforce, rather than undermine each other.

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04

Bridging the AI Adoption Gap in Insurance: A Business Playbook for the Non-Carrier Ecosystem

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AI, the new shiny technology, is everywhere these days, and yet, for all the headlines and boardroom decks, it can feel surprisingly fragile. One of the most nagging questions the CIO has is: whether their AI investments will deliver results.

According to the HFS Report in collaboration with LTM, ~ 50% of enterprises are struggling under technology and talent debt, which is limiting their ability to fully realize AI's potential. This challenge is visible in spending patterns: roughly 20% continue to buy AI the same way they have purchased IT in the past through time and materials or consumption models. Another 37% is partially adapting traditional IT buying approaches to AI initiatives. Some companies are all in, investing boldly and publicly, while others are still testing the waters, trying to make sense of what AI could mean for them. AI is becoming a great leveler. Enterprises have to manage the same set of roadblocks and risks, whether they are large companies or startups.

Despite experimentation and successful proofs-of-concept, adoption remains uneven, especially across the non-carrier ecosystem. The system comprises brokers, Managing General Agents (MGAs), reinsurers, and TPAs, which form the connective tissue of insurance operations.

Adoption is not a new challenge. It has been and will always be the most difficult problem for any IT initiative. However, there is a difference this time. This time, it's not just the change management that solves it, but a combination of multiple risks. The biggest of all is the fear of the unknown, which worsens things. It's not easy to explain how AI works in a non-technical way. That's not all, couple it with the fear of losing years of experience to a technology that took a few months to develop.

Carriers have largely taken the lead in applied AI, embedding machine learning into risk models and claims automation. However, many ecosystem players find themselves caught between ambition and execution. The issue goes beyond technical maturity; it is about operational readiness, data interoperability, and change adoption at a business level.

The Adoption Dilemma:
Why Non-Carriers Are Lagging

Non-carrier entities sit at the intersection of policy administration, distribution, and customer service. They often operate under fragmented data environments and lean operating margins, making large-scale AI investments difficult. Unlike carriers, they don't own end-to-end customer journeys or actuarial data. Yet, they are expected to deliver speed and accuracy that is comparable to full-stack insurers.

Three adoption challenges stand out:

1. Fragmented Data and Process Ownership

Many brokers and MGAs rely on third-party systems, legacy CRMs, and manually reconciled spreadsheets. The lack of data lineage and standardization across stakeholders makes deploying applied AI that thrives on context-rich datasets difficult. Even when AI pilots show promise, scaling them across partners and regional regulatory frameworks becomes a logistical nightmare.

2. Nebulous ROI and Disconnected Value Levers

AI projects often fail to transition from pilot to production because stakeholders cannot connect technological success to clear business outcomes. For non-carriers, value realization goes much beyond underwriting accuracy. It leans on faster quotes, reduced leakage, and better broker-client arrangement. Without a crisp framework to define value levers, such as cycle time reduction or cross-sell uplift, AI remains a "nice-to-have" experiment.

3. Cultural and Governance Resistance

AI's success depends as much on human adoption as algorithmic accuracy. Non-carrier organizations, especially family-owned brokerages or regionally governed TPAs, struggle to embed a data-driven decision culture. Concerns around job displacement, compliance risk, and model explainability often slow progress. AI needs champions within business functions, not just in IT.

The Cost of Inertia

The implications of delayed AI adoption go beyond operational inefficiency. As carriers accelerate digital transformation, ecosystem partners risk being left behind in data-driven value creation.

If brokers cannot offer real-time policy recommendations, they become less relevant in an era of personalized insurance. If reinsurers can't analyze loss trends fast enough, they lose negotiation leverage. If TPAs can't automate subrogation or claims triage, their margins continue to erode.

The real danger lies not in missing today's AI opportunity, but in ceding tomorrow's data advantage.

AI is far from an incremental innovation. It is a breakthrough technology. Across industries and particularly in insurance, AI is becoming pervasive in all the elements of the insurance value chain.

The mistake that many brokers have made is to consider AI initiatives as a regular IT project. Even though a robust business case is built with proper ROI, and both business and IT leadership are on board, the AI journey can still halt at the PoC stage.

So, what's unique about AI programs? The difference is that AI is not a new piece of technology introduced by the IT team to automate a process; it is a tool that requires reimagining the overall process to achieve maximum benefit. Hence, traditional approaches to business case creation, change management, and governance may not be effective.

In order to move away from the hype cycle, by conducting PoCs and measuring traditional metrics, organizations need to take a more grounded approach to AI adoption. This can be done by focusing their efforts on upskilling their entire workforce on AI. This means investing in AI literacy across all levels and embedding accessible, easy-to-use AI tools into everyday workflows. This is not a simple problem to solve. The bigger the organization, the more complex it becomes. The older an organization is, the more difficult it is to change its ways of working. This leads to three fundamental shifts that enterprises should consider to be successful in their AI journey.

Focus on democratizing AI's capability as opposed to solving point problems

AI thrives on specificity. Every successful implementation begins with a focused use case, say, automating claims adjudication using computer vision and NLP to analyze damage images and documents. The benefits are tangible: faster turnaround times, fewer errors, and an improved customer experience. But the flip side is that such solutions remain confined to narrow problems. They optimize a slice of the process but rarely reimagine the business model. Over-reliance on isolated use cases can create silos of intelligence rather than a connected AI ecosystem. The next leap lies in democratizing AI. This can be achieved by embedding its capabilities across teams, workflows, and decision-making processes. By adopting this approach, intelligence becomes a shared organizational asset rather than a specialized function within an AI department.

Uplift AI awareness for the entire workforce and reimagine processes

For enterprise-wide adoption of AI, the path forward lies in raising AI literacy across the organization. Through education, accessible tools, and empowered AI champions, organizations can develop their capabilities and create new skill sets. In order to accelerate this shift, insurers could consider roles such as a Chief Process Reimagination Officer, who focuses on redesigning workflows, bridging business–technology divides, and driving meaningful change with buy-in from various decision-makers.

Stop measuring success based on ROI; instead, measure adoption

Every IT program comes with KPIs, but in AI, rigid metrics can be misleading. As technology evolves, governance must also be adaptable. Early-stage KPIs often capture efficiency, not transformation. Sometimes, the instinct to experiment is a better compass than dashboards and data. Once adoption matures, performance indicators can follow but not define the journey.

Conclusion
Scaling AI, Building Trust

The insurance ecosystem has never been more interdependent. Carriers, brokers, reinsurers, and service providers share a single imperative: to deliver intelligent, transparent, and customer-centric experiences. Applied AI is the means to that end, but only if adoption moves beyond technology pilots to organizational belief.

Ultimately, the path forward isn't about choosing one route over another. It's about balancing use case precision, human advocacy, and adaptive governance to turn AI from a project into a pervasive business capability, one that learns, scales, and delivers lasting impact.

Trust is the central tenet in the insurance value chain for brokers and other stakeholders. Use AI as your ally in the winning game.

The time to act is now. In a market defined by uncertainty, the only true risk is hesitation.

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Nitin Jain is the Vice President and Global Head of the Insurance. Broker Portfolio. He carries over 25 years of experience in the insurance industry, across the entire value chain of insurance carriers, brokers, MGAs, TPAs, and product companies. Nitin has successfully built and led high-performing teams focused on solving complex challenges related to simplification, modernization, and digitization for numerous clients.

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05

Real-Time Risk, Real-Time Decisions: Embedding Applied AI & Geospatial Technologies into the Insurance Core

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Insurance has always been about managing uncertainty. Yet, in a world defined by climate volatility, industrial complexity, and digital interconnectivity, uncertainty moves faster than traditional risk models can keep up. Underwriting decisions anchored in retrospective data, claims processes bound by manual assessments, and static pricing models are increasingly out of step with today's reality.
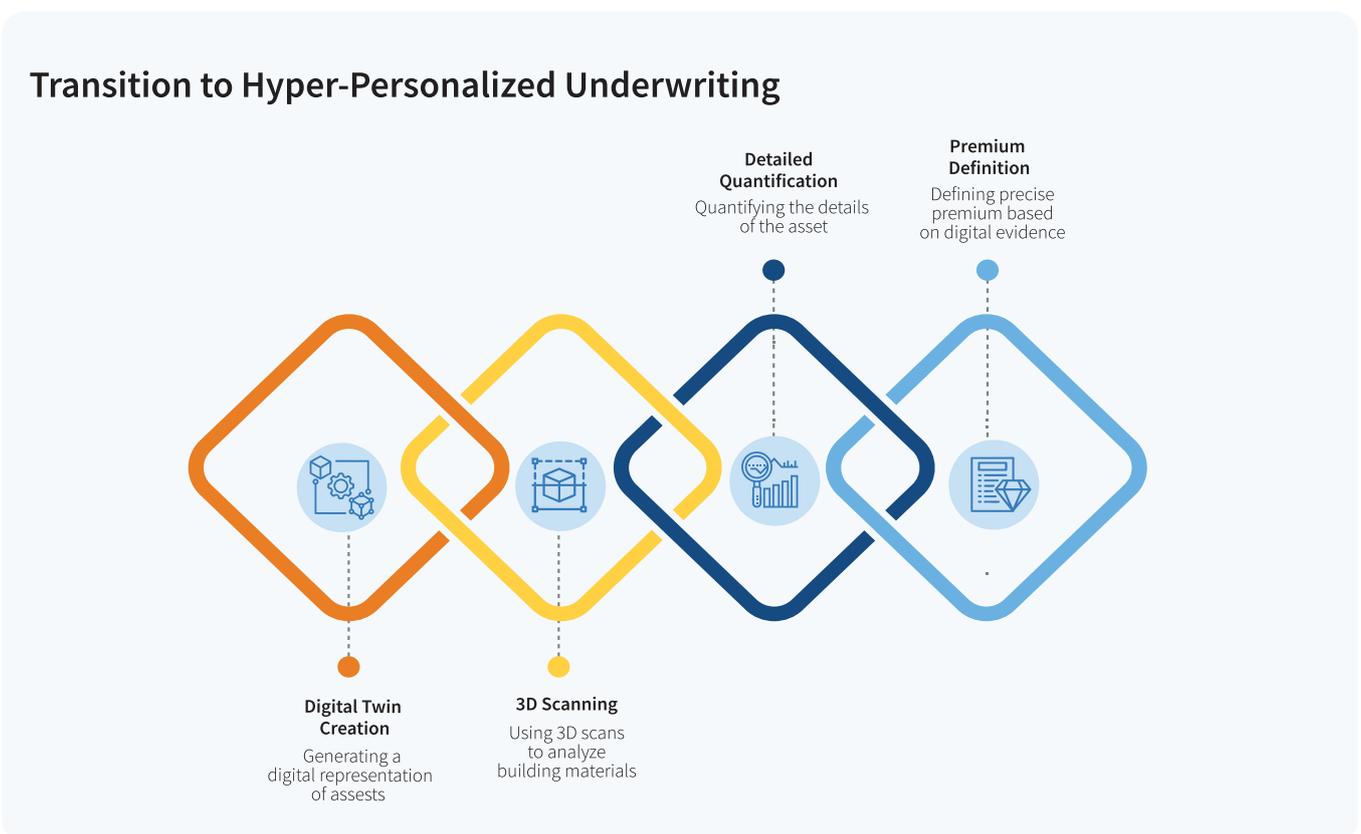
Emerging technologies, particularly applied AI and geospatial intelligence, are shifting that balance. Together, they provide insurers with the ability to sense, anticipate, and act on risks as they unfold. This isn't simply about better analytics. It's about reengineering the insurance core to enable real-time risk and real-time decisions.

Today, satellite images provide detailed information, such as geospatial images. It is a highly diversified field, starting from collecting spatial data, analyzing it, developing intelligence on top of it, and creating applications using it. All these different phases of technology have grown multifold in geospatial. Earlier, a post-grad in remote sensing and GIS was required to interpret satellite imagery, and right now, because of advancements, one can easily decipher it.

In the past, an underwriter used manual methods during the inspection and quantification process while deciding the premium price. However, geospatial technology now allows people to create the digital twin of assets, moving or non-moving. Using 3D scans, an underwriter can also determine the building materials used in constructing a facility. So, this becomes an interesting use case for underwriting to scan the asset, generate the digital twin, and quantify how much detailing has been done. Digital twins serve as evidence to customers and companies to define precise premiums. This is called hyper-personalized underwriting.

Another interesting use case is claims management. The same digital twin philosophy applies when a claim is made. The goal is to quantify and validate whether the damage is fraudulent or genuine. If it is genuine damage, what is its intensity?

Even risk profiling of customers is possible using 3D scans.

Transition to Hyper-Personalized Underwriting

Detailed Quantification
Quantifying the details of the asset

Premium Definition
Defining precise premium based on digital evidence

Digital Twin Creation
Generating a digital representation of assets

3D Scanning
Using 3D scans to analyze building materials

From Retrospective Risk Assessment to Real-Time Risk Anticipation

For decades, insurance has been built on looking backward. Historical loss patterns and actuarial models have determined risk pools, pricing structures, and coverage decisions. But this approach falters in the face of climate change, urban density, and interconnected supply chains, where yesterday's averages are poor predictors of tomorrow's events.

Applied AI and geospatial intelligence offer a way forward. Satellite imagery, drone feeds, IoT sensors, and spatial data can be combined with machine learning models to generate predictive signals of emerging risks. Instead of waiting for claims to validate exposure, insurers can anticipate loss scenarios before they escalate.

Property Insurance

▶ Instead of adjusting policies after a flood, insurers can use predictive flood modeling tied to real-time rainfall and river data to alert policyholders, adjust exposure, and manage claims proactively.

Industrial Manufacturing

▶ By blending IoT sensor data from equipment with geospatial overlays (e.g., seismic or temperature risk zones), insurers can anticipate breakdowns or safety events that might trigger costly claims.

Oil and Gas

▶ Pipelines mapped against real-time soil moisture, seismic activity, and satellite anomaly detection allow insurers to flag and intervene before leaks or ruptures become catastrophic losses.

Applied AI and geospatial technologies move insurance from a rear-view mirror approach to an anticipatory model where the very definition of coverage evolves. Risk becomes a real-time variable, continuously recalibrated by AI models drawing from spatial and environmental context.

Risk Prevention Leveraging Geospatial Technologies and AI

Weather predictions form one layer of technology. It also includes movements. For instance, if a cyclone is predicted, it could move towards the north or south. As another layer, asset superimposition will determine which critical zone the assets are in. If a pipe blasts due to a cyclone, oil spillage can be stopped with a prediction from the insurance company. Even a gas company can stop the flow of inflammable materials through pipes once intimidated by the carrier's geospatial technology, which reduces damage. So, claims would be fewer.

Environmental liability claims due to accidents are significant in the oil and gas industry; so advance notifications are required even before an incident occurs.

Such implementations are happening in pockets, but with scale, this will create a win-win ecosystem for carriers and their customers.

Geospatial AI 3D scans can inspect packages during floods for crop insurance. Geo-AI helps travel along with the coordinate system and helps with quicker settlement time. These could be value-added services for farmers. When they buy a policy, crop monitoring and risk exposure can become an added service or a package deal.

From Siloed Processes to an Integrated Decision Fabric

Today, most geospatial insurance applications remain siloed. Some focus on underwriting accuracy, others on claims acceleration, and quite a few on fraud detection. While valuable, this piecemeal approach underutilizes the potential of AI + geospatial intelligence.

The true transformation comes when insurers weave these technologies into a decision fabric that connects the entire value chain.

Underwriting and Pricing

Instead of relying on static actuarial models, AI-driven geospatial intelligence enables hyper-localized pricing. A property premium in one neighborhood could differ from the next street, reflecting granular exposure to flood plains, wildfire zones, or urban density patterns.

Claims Triage

Aerial imagery and computer vision models can classify the severity of damage within hours of a disaster. Low-complexity claims can be automatically paid, while high-severity cases are routed for human assessment, reducing delays and customer frustration.

Fraud Detection

Overlaying satellite data with reported claims can instantly flag anomalies — for example, if a policyholder reports hail damage but meteorological data shows no hail in that location on that day.

The challenges that leaders and decision makers most commonly face are:

A. Adopting AI and geospatial tools

B. Embedding them into the operational framework

That means aligning underwriting, claims, and customer engagement systems into one intelligence loop. Decisions made at one end of the value chain continuously inform the other, creating a feedback system where risk visibility and action become inseparable.

A pertinent question for leaders is how to overcome legacy system inertia to implement this integration. In such scenarios, we advise customers to start working on smaller MVPs, say risk prevention or any area for a specific industry, and learn from them. Leverage geospatial technologies and AI to help address change management and scalability issues. A discussion between the client and the technology partner helps resolve any other glitches.

From Risk Mitigation to Risk Monetization

Traditional insurance value creation has centered on underwriting margins, loss ratios, and efficient claims management. Applied AI and geospatial technologies open the door to something more powerful: monetizing risk insights.

Parametric Insurance

Instead of waiting for damage assessments, payouts are automatically triggered when a measurable geospatial event occurs, such as a flood reaching a certain depth or wind speeds exceeding a threshold. This model reduces disputes, accelerates liquidity for clients, and strengthens trust.

Risk Prevention Services

Insurers can offer predictive risk alerts to clients in industries such as manufacturing, energy, or logistics. For example, notifying a factory about equipment overheating trends, correlated with local climate conditions, not only prevents claims but creates advisory value.

Strategic Insights for Clients

Insurers can monetize their geospatial and AI insights by guiding their clients on where to build new sites, how to harden supply chains, or how to manage ESG risks tied to location and environment.

By turning risk intelligence into an advisory and preventive service, insurers expand their role from claim payers to strategic partners. This repositioning enables new revenue streams, stronger customer stickiness, and a differentiated market position.

Industry-Specific Opportunities

Oil and Gas

Continuous geospatial monitoring supports environmental compliance, minimizes spill risks, and strengthens insurer-client partnerships through real-time advisories.

Utilities and Telecom

Mapping vegetation growth and weather risks against infrastructure helps prevent outages, reduce liability, and create stronger resilience programs for communities.

Transportation and Logistics

Route optimization based on spatial risk signals can reduce accident exposure, theft, and cargo loss, feeding directly into dynamic insurance pricing. This example applies to various industries such as maritime cargo, luxury goods, etc.

For insurers, the message is clear: geospatial + AI is not limited to property insurance. It is a cross-industry enabler of real-time risk assessment, control, and hyper-personalized customer experience, creating both operational efficiency and market differentiation.

For decision makers in the insurance value chain, the implications of applied AI and geospatial technology are profound. Embedding AI and geospatial into the insurance core requires:

Technology integration across underwriting, pricing, and claims platforms.

Data governance and trust, ensuring that AI-driven decisions are explainable, auditable, and regulator-ready.

Cultural alignment, where teams view geospatial and AI not as add-ons, but as the nervous system of insurance operations.

Future of Insurance with Applied AI and Geospatial Technologies

Geospatial and AI are growing leaps and bounds in terms of their ability to influence the insurtech core, a shift that is going to continue. Hyper-personalization, digital twins, and scaling up will probably get easier, helping improve existing products, introduce newer products, and better the combined ratio.

For example, agriculture has the worst combined ratio in the industry. It's usually about 102, if not higher. So, anything that can be done to reduce claims or prevent risk helps the carriers. Prevention of claims is the only benefit. In order to continue this way, starting with smaller use cases, realizing value, and then setting the platform for scalability in the longer term will definitely help.

In a flood, an insurance company can play a critical role by assisting rescue efforts and providing immediate support. For example, drone-based deliveries can supply food and essential medicines to affected individuals. Such proactive measures reduce damages and claims and ensure real-time, effective responses.

The opportunity to harness the power of applied AI and geospatial technology goes beyond operational efficiencies. From enabling hyper-personalized products to reducing catastrophic claim ratios through real-time risk prevention, the potential is abundant. It gives players competitiveness and relevance in a market with increasingly real-time risks. Insurers that act now will define the next operating model for the industry.

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06

The Next Frontier: Intelligent Marketing Powered by Applied AI

Author

▶ Neha Kathuria

In a world where every swipe, click, and scroll leaves a digital breadcrumb, marketing has become less about selling and more about understanding the customer. The next frontier goes beyond digital outreach to reading the pulse of the customer so deeply that every interaction feels like a mirror reflecting their values, needs, and aspirations.
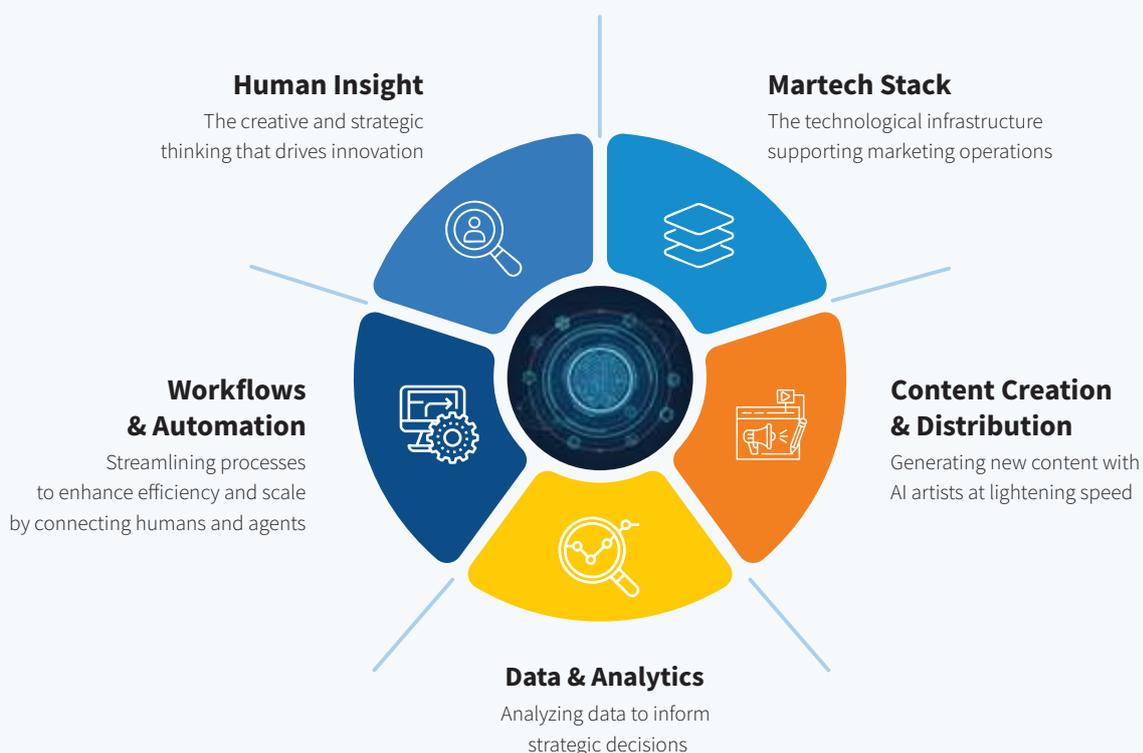
This is the promise of intelligent marketing ecosystems powered by applied AI: a seamless blend of data, technology, and human insight that creates meaningful connections and powers growth.

From Campaigns to Growth Ecosystems

With customer-centricity taking center stage across touchpoints, CMOs are transforming marketing from a cost center into a revenue driver. Their mandate now extends beyond campaigns to building ecosystems of trust and advocacy. The modern CMO balances creative vision with analytical rigor, ensuring marketing not only captures attention but also drives sustained business growth and superior customer outcomes.

In this age of AI, clients are looking for partners who can navigate data and regulators, along with execution excellence in campaigns and creatives, to deliver outcomes at scale. However, revenue growth today demands far more than scale. It demands ecosystem design. Marketing functions create this shift by blending human insights and intelligence into a new growth calculus. An intelligent marketing ecosystem is a connected, data-driven framework of technologies, processes, and stakeholders that work together to deliver personalized and adaptive customer experiences.

Intelligent Marketing Ecosystem

Human Insight
The creative and strategic thinking that drives innovation

Martech Stack
The technological infrastructure supporting marketing operations

Workflows & Automation
Streamlining processes to enhance efficiency and scale by connecting humans and agents

Content Creation & Distribution
Generating new content with AI artists at lightening speed

Data & Analytics
Analyzing data to inform strategic decisions

With AI-powered operations, launch cycles have turned from months to weeks, giving organizations the flexibility to iterate and scale with lightning speed. This acceleration is pivotal in driving successful GTM strategies.

This deeper transformation, however, lies in reframing every business engagement as an intelligent ecosystem where data, technology, and human experience converge. These ecosystems create compounding value: they develop proper workflows, shorten feedback loops, foster trust, and amplify outcomes. In this construct, marketing ceases to be a support function and becomes a strategic fulcrum of growth.

> **Marketing ecosystems comprise a seamless blend of data, technology, and human insight that creates meaningful connections and powers growth.**

Engineering Experiences That Matter

Developing superior experiences depends on the proper identification and targeting of customer segments, which is the foundation of any marketing campaign. AI's play here includes: dynamic customer segmentation and the real-time rendering of content.

Data science and analytics teams help develop segments or cohorts based on specific variables to arrive at customer propensity or affinity. Hyper-personalization of content begins with data. Massive datasets are generated from digital interactions, wearables, connected devices, etc. Even vehicle telematics are now being utilized to build a granular understanding of customers.

Using AI, teams can analyze vast datasets, identify the customer segment for a campaign, and then dynamically render personalized content on the fly. Content that has sharp and relevant messaging, for instance. The role of AI is that of enabling marketers to recommend policies, adjust premiums, or suggest preventive measures with unprecedented accuracy. What once took months of underwriting can now be contextualized and customized within minutes.

In the insurance sector, customer experience is no longer defined by policy documents or claim turnaround times. However, it is increasingly shaped by how seamlessly technology enables personalization at every touchpoint. For an industry historically viewed as transactional, this shift is profound. Large global carriers are moving from offering standardized products to delivering custom solutions, anticipating individual needs, preferences, and even life stages. Technology is the catalyst here.

> **Hyper-personalization is the insurance industry's most powerful lever for relevance, loyalty, and sustainable growth, transforming one-size-fits-all products into dynamic, living experiences.**

Customer expectations, shaped by digital-first players in retail and banking, are pushing insurers to reimagine engagement. AI-driven chatbots and virtual assistants are becoming the first line of service, delivering 24/7 support with contextual awareness. Mobile-first portals now offer policyholders transparency and control, allowing them to track claims, modify coverage, or receive alerts on risk mitigation. All of these are personalized to their behavior and history. The outcome is faster service along with an elevated sense of trust, as customers feel seen and understood by their insurer.

The power of personalization also extends to risk prevention. Insurers are increasingly leveraging IoT and predictive modeling to intervene before risks actually materialize. They do so by nudging customers toward healthier habits through various means, such as wearables or alerting homeowners to potential damage detected by smart sensors. This proactive engagement redefines the insurer's role from claim-settler to risk partner, strengthening long-term relationships and reducing costs.

Yet, the rise of hyper-personalization comes with unique challenges. Insurers need to navigate ethical considerations around data usage, ensuring transparency and consent while building models that are free from bias. The winners will be those who strike a balance between personalization and privacy.

The Evolution of Intelligent Marketing Ecosystems

Intelligent marketing ecosystems are at the cusp of a profound transformation, driven by advancements in AI, data analytics, and cloud technologies. Over the next 3–5 years, these ecosystems will evolve into hyper-personalized, predictive, and interconnected platforms that deliver seamless customer experiences across channels.

Hyper-Personalization

In the insurance sector, technology is no longer just a back-office enabler but the very foundation of differentiated customer experiences. Hyper-personalization represents the industry's most powerful lever for relevance, loyalty, and sustainable growth. For the insurance value chain, embracing it means moving from protection to true partnership.

Predictive and Proactive Marketing

AI-powered predictive analytics will allow marketers to anticipate customer needs before they arise. From insurers proactively adjusting policies around life events to retailers forecasting demand spikes with pinpoint accuracy, predictive insights will redefine responsiveness.

Interconnected Ecosystems

The age of marketing silos is ending. Intelligent ecosystems will unify marketing, sales, service, and even supply chains into a seamless, customer-centric network. Cloud-first platforms and APIs will power this integration, enabling real-time collaboration and a 360-degree view of every customer.

Ethical AI and Trust

As AI moves deeper into the enterprise fabric, organizations are formalizing ethical guardrails. Ethics boards, external audits, and structured governance frameworks quickly become baseline expectations. To build trust, corporate oversight must hardwire accountability, mandate transparency, and actively address bias in AI systems.

My Learnings from Using AI

Most days feel like a marathon of meetings–starting with optimism and ending with me questioning whether anything I said truly landed. I've always clung to pen and paper like a Victorian diarist, scribbling notes with great seriousness. My team, equally committed to tradition, would follow up with long emails detailing the minutes of the meeting, as if they were headed straight to the Buckingham Palace. Now AI does it all. It listens politely, writes tidier notes than I ever managed, and never once doodles a cat in the margin. But now, with AI taking notes, life has become easier for the team and me.

This is the simplest example I can share. However, right now, my teams like sales enablement and service lines marketing to SEO, social media, and thought leadership, have got new superpowers with data and insights coming handy, and the ability to create content and deploy agents for tasks that used to consume a lot of their bandwidth.

AI is evolving very quickly. Adoption and scale are the biggest hurdles in the path to becoming an AI-first organization. Marketing teams and, in general, the whole organization have to be agile and up to speed with new skillsets in this hybrid environment. This is when clients and their customers benefit from AI in its true sense.

The Role of Leadership in Driving AI-Powered Marketing Transformation

The C-suite plays a pivotal role in ensuring that AI-powered marketing transformation is not just a technology initiative but a strategic business priority.

Setting the North Star

CEOs and CMOs must articulate a clear vision for how AI will drive growth and customer value. This includes aligning AI initiatives with broader business goals, such as revenue growth, customer retention, and sustainability.

Breaking Down Silos

Fostering collaboration between marketing, data science, and operations, particularly between CIOs and CTOs, is critical in building the technology infrastructure needed to support intelligent ecosystems.

Investment in Talent and Culture

Transformation is only as strong as the people behind it. CHROs have a critical role in upskilling teams, nurturing digital fluency, and embedding a culture of innovation and agility.

Governance and Ethics

The C-suite must ensure that AI is deployed responsibly, with robust governance frameworks, to address bias, data privacy, and compliance.

By taking a proactive, collaborative, and ethical approach, the C-suite can position their organizations to lead in the era of intelligent marketing ecosystems.

Conclusion

Applied AI is transforming marketing. Intelligent ecosystems, powered by applied AI, will define the next frontier in insurance marketing. Companies that connect data, technology, and human insight can bring together deeply personalized experiences at scale, turning every interaction into measurable value for clients. The imperative is clear: move beyond incremental efficiency gains and reimagine marketing ecosystems as an engine for growth, trust, and customer intimacy. Those who embrace this shift will rise above competition and define the new playbook for relevance in Insurtech.

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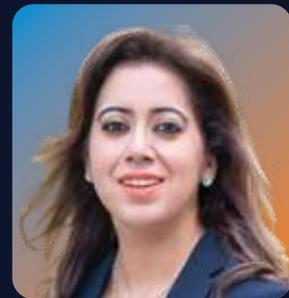
Neha Kathuria

Chief Marketing Officer,
LTM

07

Ace the Agentic Race:
How Insurers Can Win with Agentic AI
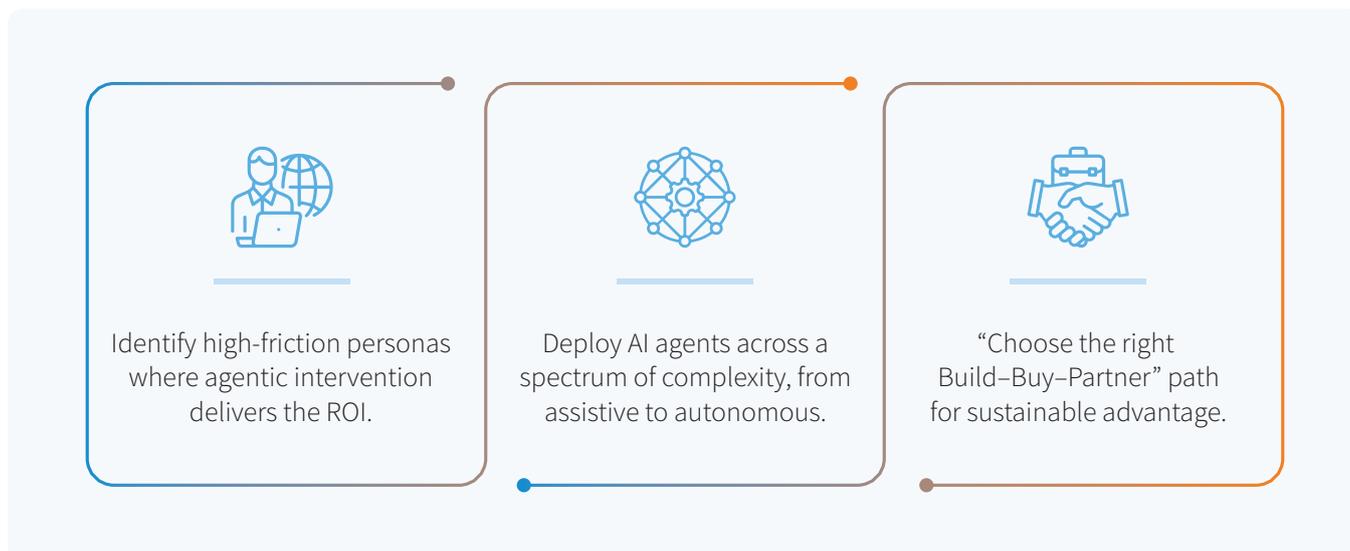
Authors
▶ Arunkumar Aruldoss
▶ Robert Inserillo

Insurers today are inundated with a flood of AI agent offerings, each promising automation, efficiency, and transformation. The real challenge, however, is no longer adoption; it's discerning what truly matters. In an ecosystem where every vendor markets "intelligence," the differentiator lies in strategy, not code.

This point of view presents a pragmatic roadmap for insurers to navigate the agentic AI landscape with clarity and precision. It breaks down how to:

Identify high-friction personas where agentic intervention delivers the ROI.	Deploy AI agents across a spectrum of complexity, from assistive to autonomous.	"Choose the right Build–Buy–Partner" path for sustainable advantage.

Through real-world examples and structured frameworks, we emphasize relevance over novelty, prioritizing technically capable agents that are contextually aligned with business outcomes.

The agentic AI race isn't about who launches the most agents but who launches the right ones. Insurers that design agents around business pain points, not technological trends, will quietly outpace those chasing every new model on the market.

The winners in this race will be the insurers that orchestrate intelligence enterprise-wide, scale responsibly, and measure success in transformed outcomes.

1.1
Understanding the Market Context and the Real Challenge

AI agents are rapidly gaining traction in the insurance sector, fueled by the explosion of enterprise data and the maomentum created by generative AI. Yet, not every automated solution qualifies as a truly intelligent agent, and not every agent delivers meaningful value.

Over the past six months, insurers have witnessed a surge in agent offerings from hyperscalers (large cloud service providers such as AWS and Google Cloud), commercial off-the-shelf (COTS) platforms, and InsurTechs. This influx of marketplaces and product launches has created a noisy landscape, making it difficult for decision-makers to separate hype from substance.

CIOs and CTOs today face a flood of critical questions:

? ▶ Which agents are most relevant to our business? For example, should underwriting teams adopt AI-driven submission intake first or claims agents that improve triage accuracy?

? ▶ Should we build agents internally or buy off-the-shelf? A wrong decision can lead to sunk costs, fragmented ownership, and a higher technical debt burden.

? ▶ When should we choose COTS platforms over InsurTech solutions? While COTS options bring scale and security, niche InsurTechs often offer faster innovation cycles, creating a balance challenge.

? ▶ Should agents be centralized or tailored to specific lines of business? A one-size-fits-all approach can slow agility, while decentralization may amplify governance complexity.

In this fast-evolving landscape, insurers' real challenge isn't just adopting AI agents; it's making intentional, high-value choices about which agents to deploy, how to deploy them, and where they can drive meaningful impact across the enterprise. The winners in the agentic race will be those who cut through the noise, align agents to business outcomes, and orchestrate intelligence with precision.

As insurers evolve into AI-native enterprises, transitioning from conventional automation to autonomous, agent-driven operations is a strategic imperative. To navigate this transformation effectively, insurers must anchor their decisions around four key guideposts that shape the future of agentic transformation.

Four Guideposts to Win the Agentic AI Race

How To Build
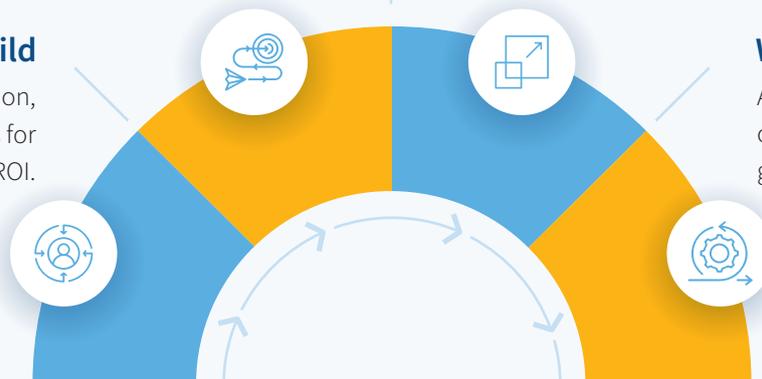Choose the best approach based on strategic needs.

How To Scale
Ensure enterprise-wide orchestration for seamless collaboration.

What To Build
Focus on high-friction, high-value personas for quick ROI.

Where To Start
Adopt an iterative complexity model for gradual AI integration.

1.1.3 What to Build:
Prioritize Agents Around High-Impact Personas

Insurers should start by pinpointing areas of high friction and strategic importance across core and support functions, such as underwriting, claims, customer service, and operations. A persona-led approach is key: identify roles where autonomous, goal-oriented digital agents can reason, act, and make decisions to alleviate bottlenecks and elevate performance.

Rather than defaulting to traditional process-centric automation, insurers must shift focus to high-impact personas. Organizations can prioritize agent use cases that promise the greatest return on investment by mapping operational pain points and uncovering "intelligence zones", decision-rich activities where agents can deliver maximum impact.

Claims Processor
• Coverage verification
• Summarize documents and notes

Underwriters
• Submission intake automation
• Enrich third-party data

Employees
• HR queries and policies
• Chatbots for service

Actuaries
• Research and summarize
• Loss reserve analysis and findings

IT Teams
• Code conversion
• Test case /data creation

High Impact Personas

Contact Center Reps
• Suggest actions during calls
• Wrap up calls

Agents & Brokers
• Research and summarize
• Loss reserve analysis and findings

Customers Service

Billing Teams
• Data extraction
• Letters generation

Marketing
• Create marketing content
• Identify channels and buying patterns

Finance Teams

HR Reps
• Scrutinize resume
• Create sample interview questions

Legal

Audit

The following table showcases how insurers are already unlocking tangible value by deploying agentic AI across high-impact personas. It highlights the intelligence zones where agents thrive and the real-world outcomes they deliver.

Persona	Intelligence Zones	Industry Example
Claim Adjustors	Claims triage Fraud detection Subrogation assessment Claims leakage	Aviva saved GBP 100 million in 2023, using AI to detect, deny, and deter fraudulent activity.[1]
Underwriters	Submission intake Clearance & appetite checks Risk assessment	AIG reduced its UW cycle times from weeks to one day.[2]
Advisors	Lead scoring Campaign generation Churn prediction Cross-sell recommendations	Intelligent quotes led to a 36% increase in referral rate.[3]
Actuary	Risk modeling Loss trend analysis Pricing optimization Regulatory compliance	N/A
Customer Service Rep	Sentiment analysis Policy Q&A Billing support	N/A

1.1.2 Where to Start: Build with Iterative Complexity Across the Agent Spectrum

Once insurers have identified high-impact personas and mapped operational friction, the next imperative is building modular, interoperable agents to augment those personas seamlessly across workflows.

Agents should be deployed along a spectrum of complexity, tailored to the cognitive demands and decision-making depth of each persona:

Assistive agents serve as digital companions, retrieving documents, answering policy questions, or summarizing information.

Augmenting agents provide contextual nudges and recommendations, such as risk appetite scoring for underwriters.

Autonomous agents operate independently, executing goal-driven tasks like auto-triaging claims or predicting litigation risk.

To build trust and drive adoption, insurers should begin with assistive agents that are easy to integrate, then evolve toward augmenting agents that guide decisions, and ultimately deploy autonomous agents capable of acting independently. This staged approach ensures usability, scalability, and alignment with enterprise readiness.

Agent Spectrum by Persona

Persona	Assistive Agents	Augmenting Agents	Autonomous Agents
Claim Adjustors	Claims Q&A bot Policy lookup assistant	Fraud pattern identifier Subrogation suggestion engine	Auto-triage agent Litigation risk predictor
Underwriters	Document intake assistant Coverage lookup agent	Risk appetite scorer Clearance recommendation agent	Quote generator agent Pricing decision engine
Advisors	Lead scoring Campaign generation Churn prediction Cross-sell recommendations	Lead scoring Campaign generation Churn prediction Cross-sell recommendations	Lead scoring Campaign generation Churn prediction Cross-sell recommendations
Actuary	Data summarization agent Regulatory reference bot	Loss trend analyzer Risk tier recommender	Dynamic pricing optimizer Reserve forecasting agent
Customer Service	Policy FAQ bot Billing info assistant	Sentiment analyzer Next best action recommender	Call resolution agent Complaint routing agent

Here's a glimpse into a reimagined day in the life of an underwriting assistant, illustrating how assistive, augmenting, and autonomous agents converge to transform decision-making, streamline workflows, and elevate impact.

Day-in-a-Life

Business

Sarah Johnson
Underwriting Operations

Role:
Sarah reviews all commercial property submissions, checks for duplicates and risk appetite before handing it over to underwriters

Pain Points:
Manual processing, workload surges, repetitive tasks, inconsistent decision making, fragmented systems and workflows, manual errors and compliance risks

Goals:
Review submissions faster with increased accuracy

Agentic AI at Work

Submission Intake

Sarah: "Review the new submission from Ace Hardware"
Al: Extract information from the Acord, Loss Runs, Broker form, property images, and summarize extracted data

- Faster Intake
- Reduced workflow surges

Identify Intent

Sarah: "What is the submission about? Is it a new submission"
Al: "It's a renewal request from Ace Hardware sent by Heist Insurance Agency"

- Reduced workflow surges
- Faster processing times

Good Order Checks

Al: "There are 2 missing data- Effective Date, LOB. Do you want me to email the Broker?"
Sarah: "Yep, let's do it."

- Reduced manual overheads
- Faster resolution

Clearance Check

Al: "The submission seems to be a duplicate of what was sent by the CRC Group."
Sarah: "Show me a comparison of the 2 submissions."

- Faster prioritization
- Reduced decision fatigue

Risk Appetite Validation

Sarah: "Do we cover GL for medical devices firms."
Al: Yes, we have limited coverages for medical devices firms. Here's some more info

- Consistent decision making
- Improved compliance

Application Insights

Sarah: "What is the SIC Code for Ace Hardware?"
Al: ts 2731. Here's the link from where I looked it up. It's covered under our risk appetite

- **Precise underwriting**
- **Improved decision making**

Propensity to Bind

Al: "Propensity to Bind is 78% (High). Heist Insuarnce Agency has a conversion ratio of 64% for this LOB"
Sarah: "That's good."

- Increased accuracy
- Higher RIO

Follow-ups

Al: "Mutual agency has not reverted back on the loss runs. Do you want me to follow-up?"
Sarah: "Yes, send a reminder."

- **Increased productivity**
- **Reduced SLA times**

Autonomous   Augment   Assist

1.1.1. How to Build:
Navigating the Build vs Buy vs Partner Decision

Once insurers commit to modular, persona-aligned agents, the next decision is how to bring them to life, whether to build them in-house, buy from existing platforms, or partner with InsurTechs or hyperscalers.

With hyperscalers like Microsoft, AWS, and Google continuously releasing prebuilt agents, and COTS platforms such as Duck Creek, Guidewire, Majesco, FAST, and Sapiens embedding agents into their ecosystems, many foundational capabilities are becoming commoditized.

This decision is not binary; it must be guided by the agent's strategic value, intelligence depth, and deployment urgency. Before deciding, it's key to understand what each player brings as a strength.

InsurTechs

Offer domain-trained agents on insurance workflows, enabling fast deployment and contextual accuracy. Their multi-agent setups interact with documents and APIs, making them ideal for insurers seeking rapid, intelligent automation without deep internal AI infrastructure.
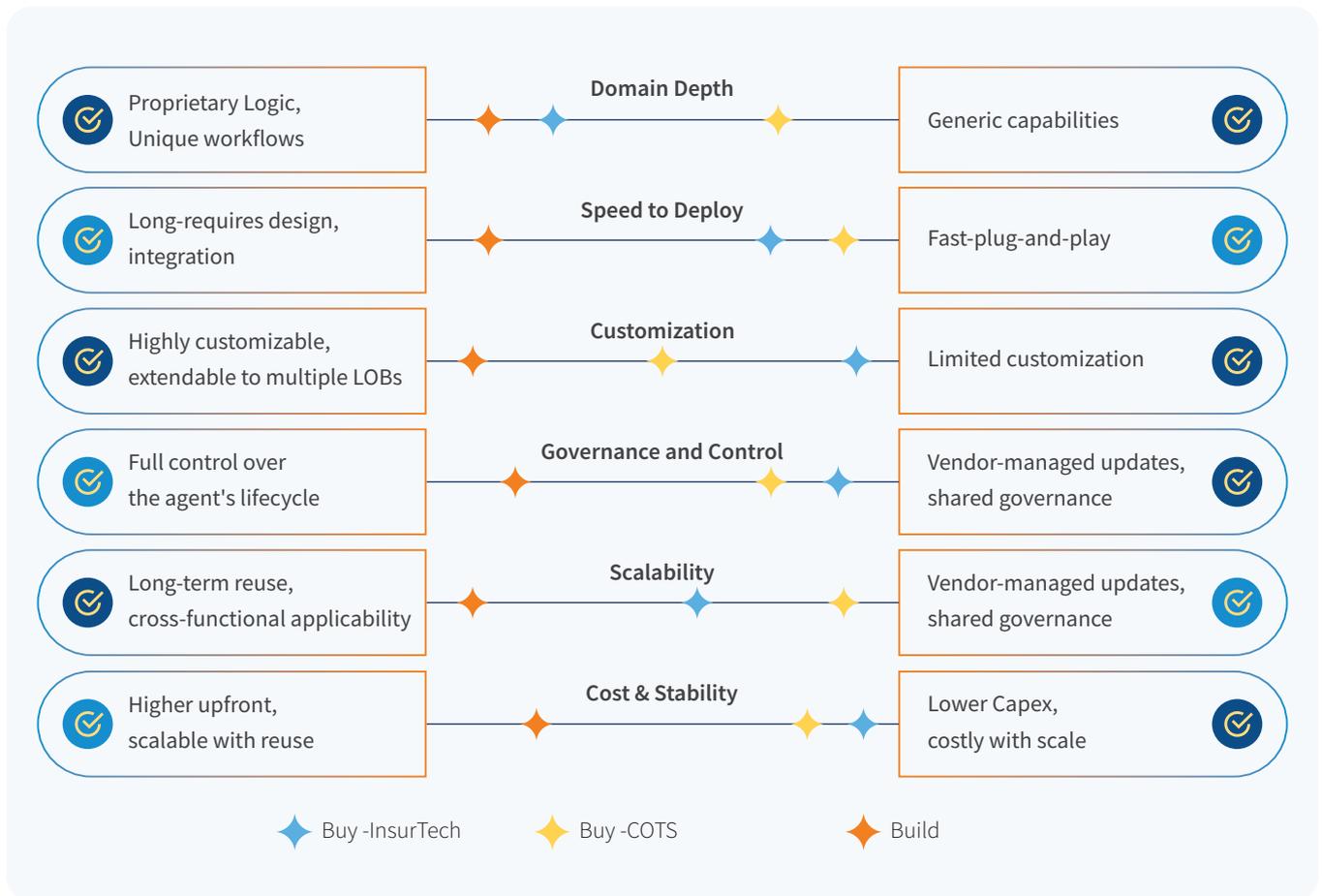
COTS providers

Deliver scalable agentic platforms with embedded workflows. Their agents orchestrate policy servicing, CRM, and claims automation. While less flexible than InsurTechs, they offer enterprise-grade governance, vendor support, and integration maturity, which is ideal for insurers prioritizing stability and ecosystem alignment over deep customization.

Hyperscalers

Empower insurers to create custom agents using modular frameworks. Platforms like BlueVerse enable no-code and pro-code agent development with orchestration, memory, and RAG pipelines. This approach offers complete control and IP ownership but demands AI maturity, governance, and strategic clarity to align agents with business outcomes.

Here's a snapshot of what strategy to pursue and how each option fits against key considerations.

Proprietary Logic, Unique workflows	**Domain Depth**	Generic capabilities
Long-requires design, integration	**Speed to Deploy**	Fast-plug-and-play
Highly customizable, extendable to multiple LOBs	**Customization**	Limited customization
Full control over the agent's lifecycle	**Governance and Control**	Vendor-managed updates, shared governance
Long-term reuse, cross-functional applicability	**Scalability**	Vendor-managed updates, shared governance
Higher upfront, scalable with reuse	**Cost & Stability**	Lower Capex, costly with scale

Buy -InsurTech   Buy -COTS   Build

Insurers must choose between the three options as they choose agents across different business functions. The real value lies in orchestrating these options and hybrid choices and how they encapsulate proprietary business logic, domain-specific reasoning, and contextual intelligence across these agents.

1.1.4. How to Scale:
Orchestrate Intelligence Across Enterprises

To truly scale agentic AI, insurers must evolve from deploying isolated agents to building orchestrated ecosystems that span the enterprise. This means embedding agents within individual lines of business and across interconnected workflows, ensuring seamless interoperability, centralized governance, and continuous feedback loops.

By integrating agents into shared platforms and aligning them with enterprise-wide intelligence strategies, insurers can unlock compounding value, reduce silos, and enable dynamic decision-making at scale.

The key lies in harmonizing modular agents with enterprise architecture, so that intelligence flows fluidly across underwriting, claims, customer service, and beyond, driving transformation that is both scalable and sustainable.

Conclusion

Insurers must master the skill of relevance to succeed in this agentic race. In a marketplace flooded with agents, platforms, and promises, the key to standing out from the noise and providing actual value is how accurately intelligence is aligned with business outcomes.

Relevance means deploying technically capable and contextually aware agents who understand underwriting nuances, claims complexity, customer sentiment, and regulatory demands. It's about orchestrating intelligence that speaks the language of your enterprise, adapts to your workflows, and evolves with its challenges.

The winners won't be those who deploy the most agents, but those who deploy the right ones, relevant, resonant, and relentlessly focused on impact. That's how you win the agentic game. That's how you make the "R" count.

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08

Core Transformation to Continuous Transformation in the World of Applied AI

Author

▶ Ganeshkumar Pandian

01
The Era of Core Transformation

For decades, the insurance industry relied on a model of major, periodic overhauls. These "core transformation" projects, often spanning years, were the bedrock of modernization. Their goal was to replace outdated, fragmented legacy systems with a single, integrated platform. This approach successfully achieved its primary objectives such as:

Reduced Expense and Total Cost of Ownership (TCO)

By consolidating systems, insurers eliminated the high maintenance costs and inefficiencies associated with disparate technologies.

Operational Excellence

The new platforms automated manual workflows, reducing leakage costs and improving the overall operational efficiency.

Enhanced Customer Experience

Modern digital portals and streamlined processes provided better service and communication with customers.

This model, however, was designed for a world where change was incremental. The advent of AI has shattered this paradigm, making a one-time overhaul an inadequate strategy.

02
The Shift to Continuous Transformation

The fundamental problem with a one-time transformation is that it's a snapshot in time. A modern system today may be a legacy system tomorrow. With the accelerating pace of technological innovation, particularly in applied AI, insurers must adopt a mindset of continuous transformation. This isn't about replacing the entire system every few years; it's about building a flexible architecture that allows for constant, iterative innovation. Think of it as a living organism that evolves and adapts, rather than a static building that gets torn down and rebuilt.

The key to this ongoing evolution lies in applied AI, where AI is not just a feature but is deeply embedded into every business process. This continuous evolution is enabled by five key strategic focus areas for insurers.

1 Cloud Adoption and SaaS: The Engine of Innovation

Cloud-based platforms and **SaaS (Software-as-a-Service)** are the fundamental enablers of continuous transformation. The SaaS model allows for the continuous deployment of updates and new capabilities from the vendor, including advanced AI models and agents. Many commercial off-the-shelf (COTS) software providers are heavily investing in AI-native features, integrating them directly into their cloud-based platforms.

It is a natural expectation for insurers to want these new, advanced features directly integrated into their core platform. Rather than building proprietary AI solutions from scratch, they can leverage the constant stream of innovations that their COTS vendors deploy through the cloud. This approach provides a powerful engine for getting more value directly from the software vendor's platform.

2 Strong Data Foundation: The Lifeblood of AI

A unified data foundation is essential as insurers embark on continuous transformation. Modern data architecture, such as a data fabric or a data lake, provides the scale and flexibility to bring together vast, disparate datasets into a single, governed environment. This includes everything from structured policy and claims systems to unstructured data from third-party sources.

This unified approach ensures that AI models have timely access to high-quality, real-time information while preserving the business context and data lineage required for accurate, trustworthy insights. By enabling seamless data integration and collaboration, this foundation empowers insurers to move beyond siloed analytics and fuel enterprise-wide AI adoption in areas like underwriting, fraud detection, and claims automation.

3 The Evolving Digital Engagement Layer: Beyond Websites and Apps

In the past, the "system of engagement" for insurers was a static website, mobile app, and agent portal. This was a one-way street, connected to the "system of record" to display policy details or process payments. However, the rise of large language models (LLMs) is fundamentally changing how customers discover and interact with insurance.

From Keyword SEO to Conversational Optimization

Traditional search engine optimization (SEO) was a game of keywords, where insurers competed to be the top link on a search results page. With the prevalence of LLMs and generative AI, the game has changed. Customers are no longer just typing keywords; they are asking complex, conversational questions. They might ask, "What's the best insurance for a first-time homebuyer in a flood zone?" The AI model will then provide a direct answer, synthesizing information from multiple sources.

For insurers, this means the new goal is not just to rank, but to be a cited source. You must create content that is so comprehensive and trustworthy (Experience, Expertise, Authoritativeness, Trustworthiness (EEAT) that it is selected by LLMs as the basis for their direct answers. This requires an "answer-first" content strategy, where information is structured to directly answer common questions with clear, easily parsed data points. This integration of AI into the engagement layer is a key component of continuous transformation, ensuring that back-end efficiency is fully realized in the customer's experience.

4 API Gateways: Orchestrating the AI Ecosystem

An API gateway is the strategic foundation for AI implementation in insurance. It acts as a single point of entry, enabling secure, scalable, and compliant access to AI services across complex legacy systems. By managing authentication, data flow, and monitoring, the gateway ensures sensitive insurance data is protected while allowing AI models to be seamlessly embedded into core systems and customer engagement processes.

An API gateway provides a single control point for reusability and ecosystem connectivity. It makes AI adoption faster and more governable by preventing siloed solutions and providing a unified way for different services to talk to each other.

5 Marketplace and Insurtech Partners: The Core++ Ecosystem

A modern insurance core system, built on a modular and API-first approach, creates the foundation for a Core++ ecosystem, a framework that extends beyond traditional core modernization. Core++ integrates core insurance systems with a broader ecosystem of customer communications management (CCM), engagement platforms, payment solutions, InsurTechs, AI, and automation technologies to drive enhanced business outcomes across the insurance value chain. This model enables insurers to create a plug-and-play marketplace of selected InsurTech partners. Beyond speed, this model provides the flexibility to mix and match emerging solutions—whether in claims automation, underwriting, or fraud detection—ensuring insurers can continuously evolve their AI capabilities as technology advances. This model also fosters cost efficiency, as solutions can be consumed on-demand rather than through large-scale custom development. This open ecosystem enables co-innovation with partners, giving insurers access to niche expertise and robust solutions.

Conclusion
Transformation Is Now the New Core

The insurance industry has long operated on the principle of a single, monumental leap. But in the age of applied AI, the winner will not be the one who makes the biggest jump, but the one who has mastered the art of taking multiple small steps forward, every single day. The shift from a project-based mindset to a continuous journey is the single most important strategic decision an insurer can make. In a world where the only constant is change, transformation must become the new core.

About the Author

Ganesh has around 22 years of insurance experience in core and digital transformation areas. He has helped numerous insurers and brokers set up operating models and implement COTS products successfully. He brings together leading InsurTechs to accelerate clients' transformation journeys.

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Embedding AI into Legacy Workflows in Life and Annuity Insurance

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Transformation in Life and Annuity Insurance

The Life and Annuity (L&A) insurance industry continues grappling with legacy systems' burden. In our experience, nearly 90% of tier-1 L&A insurers still operate their policy books on dated core platforms. These legacy environments inflate operational costs and limit business agility, especially as regulatory changes and evolving policyholder expectations demand faster adaptation.

The rigidity of legacy systems also impacts experience delivery. Whether for policyholders or distribution partners, fragmented data and outdated processes make it more complicated to deliver the seamless, real-time experiences that today's market expects.

To address this, insurers are considering three modernization paths, each with its own level of risk, cost, and speed to market:

Full Replacement

Replacing existing core systems with new-age, cloud-native platforms to achieve long-term scalability. However, this often requires a multi-year investment and complex migration.

Re-engineering Legacy Systems

Refactoring or rebuilding parts of the existing stack to add new features and improve performance. This is typically faster than a complete replacement but still resource-intensive.

Exposing Legacy Functionality

Wrapping core capabilities with APIs and digital engagement layers so externalized workflows can consume them. This offers the fastest modernization route with lower disruption.

Yet, modernization today is not only about technology upgrades. In the age of applied AI, embedding agentic AI capabilities into these workflows enables insurers to drive agility, efficiency, and superior customer experience, without abandoning the stability of their legacy core.

In this perspective, we've shared how L&A insurers can achieve this balance by using the Model Context Protocol (MCP) to expose legacy functions to intelligent, AI-powered workflows. MCP is reshaping how insurers unlock value from their existing systems, and in the following sections, we'll examine the challenges driving this shift and how MCP helps overcome them.

Challenges of Legacy Systems in the L&A Sector

Technical Debt and Business Constraints

For decades, L&A carriers have depended on mainframe-based policy administration and transaction processing systems constructed as monolithic, Common Business-Oriented Language (COBOL)-heavy applications.

As mentioned, many tier 1 L&A insurers have nearly 90% of their policy books on legacy systems. While these platforms have provided reliability and supported regulatory and product changes over time, they now generate significant technical debt and operational constraints:

Inflexibility and Resistance to Change

Even minor updates to products or processes require extensive coding, regression testing, and lengthy lead times, making changes costly and risky.

Data Silos and Integration Gaps

Critical policy and customer data remain stored in proprietary formats, limiting access for digital channels, analytics, and AI-driven workflows.

Rising Maintenance Costs

As the pool of legacy technology experts familiar with COBOL, Job Control Language (JCL), and Database 2 (DB2) shrinks, maintenance costs increase, along with the risk of knowledge loss.

Poor Digital Experience

Outdated interfaces and batch-driven workflows impede self-service for distribution partners and customers, leading to slow, paper-heavy processes.

Compliance and Security Risks

Legacy systems find it challenging to meet modern standards for data privacy, auditability, and cybersecurity, heightening the risk of regulatory penalties and security breaches.

Innovation Bottleneck

The inability to rapidly launch new products, the lack of API readiness, and challenges in integrating AI or automation into workflows hinder innovation.

The Mandate for Modernization

Industry research underscores the urgency for change:

Rising Costs

L&A carriers have experienced the steepest increase among financial sectors over the past two decades. Since 2003, costs as a proportion of revenue have risen by 23%.

Slow Product Launches

PwC reports that launching a new product on legacy systems can take 6–9 months and cost USD 400K–900K, an uncompetitive pace in today's market. Our experience shows that the product launch cycle involving legacy systems takes 3-6 months.

Talent Shortages

We have observed a shortage of mainframe specialists in the talent market, which makes it difficult to maintain legacy systems and raises maintenance costs.

Meanwhile, digital-first competitors using modern platforms and AI are reshaping speed-to-market, product innovation, and customer engagement.

Strategic Options for Modernizing Legacy L&A Systems

Option A: Full System Replacement with Modern Platforms

The Mandate for Modernization

A radical transformation approach involves phasing out mainframe core systems and transferring all business rules, data, and workflows to new digital-native platforms, often SaaS, cloud, or microservices-based policy administration solutions.

Characteristics

▸ Complete data and logic migration

▸ Retire all legacy hardware/software

▸ New, flexible architectures-modern APIs, microservices, and embedded analytics

▸ End-to-end re-engineering of business process

▸ Reimagine customer experience

Option B: Reengineering or Refactoring Legacy Systems

This strategy involves selectively re-platforming or re-architecting (refactoring) monolithic legacy code, such as rewriting COBOL logic into Java or .NET, containerizing workloads, or extracting business rules for modularization.

Characteristics

▸ Incremental or phased migration by module/process

▸ Retain portions of legacy platforms where viable

▸ Enables cloud/hybrid architectures, but at a slower pace

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Option C: Exposing Legacy Functions via APIs and Digital Layers

Here, modernization is focused on "exposing" key functions from the legacy core via integration layers, APIs, or middleware-using approaches like MCP to enable incremental automation, embedded AI, and digital engagement.

Characteristics

▶ No immediate replacement of mainframe/core

▶ Build AI workflows outside legacy systems

▶ Use API/MQ, middleware, or MCP to "wrap" and expose legacy logic as reusable digital services

Now, I present a short comparison to make the trade-offs explicit. This table helps leaders match each approach to their risk appetite, budget, and time-to-value.

Comparison Table: Replace vs. Reengineer vs. Expose

Aspect	Replace	Reengineer	Expose (API/MCP)
Upfront Cost	High	Medium-High	Low-Medium
Business Disruption	Very High	Moderate-High	Low
Speed to Value	Slow (years)	Moderate (months–years)	Fast (weeks–months)
Long-term Agility	Maximum	Moderate-High	Moderate
Risk	High (migration, failure)	Moderate (scope creep)	Low-Moderate
AI-readiness	High	Medium-High	High (for exposed domains)
Talent Requirements	Modern Skillsets	Legacy & Modern	Modern (integration/API)
Ongoing Legacy Cost	Eliminated	Reduced	Gradually Reduced
Scalability	High	Medium-High	Medium-High

While each option has merits, most L&A insurers are converging on exposing their legacy mainframe functions via encapsulation and APIs, which leads us to MCP.

MCP is the technical spine that makes this architecture work. Let's discuss MCP plainly and learn how it enables context continuity, service contracts, and safe AI-human handoffs across legacy systems.

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What is Model Context Protocol (MCP)?

MCP is an open protocol designed to connect AI models (including large language models and agents) with external data sources, transactional tools, and workflow resources, using a standardized, client-server communication pattern.

MCP acts as a "universal adapter," removing the need for custom integrations and enabling best-of-breed AI models to plug into existing data and logic without complex rewrites.

How MCP Works: The Functioning Architecture

MCP uses a standard client–server pattern so models can call business logic without custom adapters:

Host (the AI orchestrator)

▸ The host runs the LLM stack or agent platform that drives orchestration. In an L&A scenario, the host coordinates with agents that collect medical evidence, score risk, and propose pricing options for a new annuity submission.

Client (the session manager)

▸ The client maintains the connection to one or more MCP servers and initiates method calls. For example, it handles a submission session, passes applicant identifiers and request context to servers, and aggregates the server responses for the host.

Server (exposes business functions and sources)

▸ The server publishes discrete capabilities such as "calculate quote," "check eligibility," or "fetch medical report." In practice, an L&A server routes calls to the policy admin system to fetch policy history, to rating engines for premium calculations, and document stores for medical records.

These components let AI agents invoke existing business logic without reworking the core. In L&A use cases, agents can call the rating engine, retrieve underwriting rules, validate KYC data, and return actionable results to the underwriter workspace in real-time.

For L&A Insurers, MCP Delivers

Rapid plug-and-play integration

▶ Modern AI agents connect to legacy business logic exposed via MCP, avoiding extensive rewrites.

Security and compliance

▶ Standardized access and audit trails support role-based controls and regulatory reporting.

Scalability

▶ Iterative delivery is simpler because teams avoid bespoke connectors to each tool or data source.

Observability

▶ Notification mechanisms provide real-time updates to workflow status and tool availability.

MCP is supported by leading AI stacks, enabling insurers to embed intelligence into existing workflows with minimal disruption. However, capabilities must translate into an implementable architecture. Next, map AI agents, orchestration, data standardization, and legacy interfaces into a layered logical design that teams can operationalize.

Logical Architecture:
Why Layered Design Matters for L&A Leaders

As a technologist working with L&A insurers, I recommend a layered architecture. CTOs and heads of architecture need to see how each layer maps to business outcomes. This design keeps legacy stability while enabling AI-driven workflows and faster time to value.

Engagement Layer

This comprises front-end channels and advisor tools that policyholders and distributors use to start interactions. Customer portals, advisor desktops, and API endpoints that capture submission details and preferences are a part of this layer.

Impact

▶ Collecting structured data earlier improves customer experience and reduces intake errors

▶ Enables faster triage and better handoffs to underwriting and distribution teams

AI Orchestration and Embedded Workflows

The layer where generative and deterministic agents run business flows and make decisions. It hosts agents for lead analysis, underwriting recommendations, quote scenarios, and compliance checks.

Impact

▶ Automates routine steps and surfaces decision points for underwriters, speeding case throughput

▶ Reduces manual rework by orchestrating multi-step, end-to-end processes

MCP Client and Server Layer

Standardized interface that lets AI agents call legacy functions and consume data without custom adapters. MCP client manages sessions and aggregates responses from multiple MCP servers. These servers register tools like rating engines, eligibility checks, and document stores as callable methods.

Impact

▶ Minimizes custom integration work and makes plugging AI into existing systems faster

▶ Reduces manual rework by orchestrating multi-step, end-to-end processes

Adapter and Protocol Translation Layer

This comprises technical bridges that translate between modern APIs, messaging, and legacy transaction codes. API gateways and message queues map legacy formats to modern schemas and vice versa.

Impact

▸ Ensures secure, reliable exchanges and preserves transactional integrity across systems

▸ Enables faster triage and better handoffs to underwriting and distribution teams

Legacy Core Functions

This is the system of record for policies, transactions, and rules that remain authoritative during transformation. Policy administration, rating, premium accounting, and data stores hold canonical business logic.
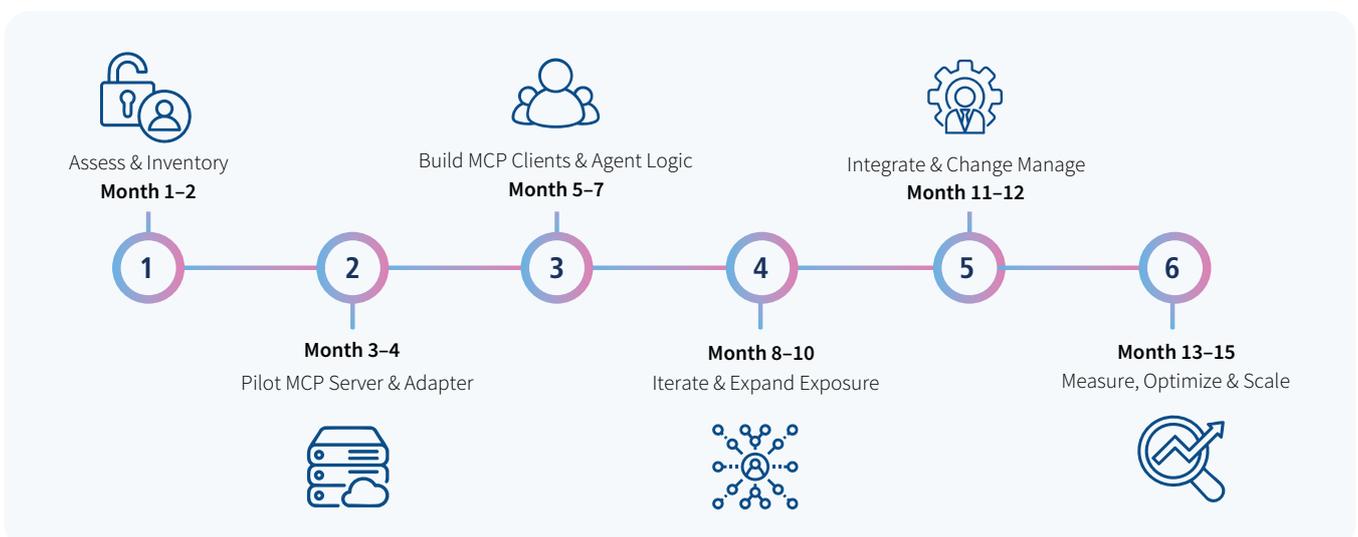
Impact

▸ Preserves regulatory controls, audit trails, and pricing fidelity while new layers add value

▸ Allows insurers to modernize incrementally without rewriting validated business logic

This layered approach gives technical leaders a clear migration path. It protects the core while enabling AI to deliver measurable underwriting and operational benefits.

Practical Implementation Roadmap

Six-phase MCP roadmap to embed AI into legacy L&A workflows

Assess & Inventory
Month 1–2

Build MCP Clients & Agent Logic
Month 5–7

Integrate & Change Manage
Month 11–12

1 2 3 4 5 6

Month 3–4
Pilot MCP Server & Adapter

Month 8–10
Iterate & Expand Exposure

Month 13–15
Measure, Optimize & Scale

Phase 1: Assess Readiness and Inventory Functions

Timeline: Month 1–2

Map critical workflows (new business, quote, underwriting, issue)

Identify mainframe transactions and dependencies

Inventory documentation, data models

Prioritize high-impact, low-risk components for initial exposure

Phase 2: Pilot MCP Server and Adapter Layer

Timeline: Month 3–4

Stand up the MCP server instance

Establish API/MQ connectors to legacy systems

Register foundational tools (e.g., validate client ID, calculate premium, fetch in-force policy)

Phase 3: Develop MCP Clients Within Digital and AI Orchestration Layers

Timeline: Month 5–7

Integrate MCP client SDKs into agent orchestration, low-code tools, and AI stacks

Define agent workflows (prefill, needs analysis, quote generation, compliance checks)

Run pilots with shadow or limited production traffic

Phase 4: Iterate and Expand Digital Exposure

Timeline: Month 8–10

Monitor latency, error rates, and business KPIs

Collect feedback from business and IT stakeholders

Expand toolset to additional domains (claims, servicing, KYC, etc.)

Phase 5: Integration and Change Management
Timeline: Month 11–12

Communicate process changes and train staff

Define escalation paths, consent, audit, and rollback mechanisms

Begin phasing out manual workarounds and legacy UI dependencies

Phase 6: Measure, Optimize, and Scale
Timeline: Month 13–15

Implement continuous monitoring and AI learning loops

Optimize workflows across human and agent layers

Establish a Center of Excellence for reuse and best practices

Align business and IT leadership on shared KPIs and adoption roadmap

Why MCP-Driven AI Modernization Is the Most Strategic Path for L&A Insurers

Faced with aging cores, rising operating costs, tighter regulations, and new market entrants, L&A insurers cannot afford a passive approach. Full replacement is costly, time-consuming, and risky. Exposing legacy functions to digital and AI agents through MCP offers a practical, lower-risk alternative. It provides immediate operational value while laying the groundwork for ongoing modernization and smarter product and pricing decisions.

In my experience, the earliest measurable benefit from MCP pilots isn't just cost per policy. It's the ability to iterate on products and pricing much faster. When underwriting logic and rating engines are accessible in real-time, teams can test different pricing options, gauge responses, and adjust within weeks instead of quarters. This rapid feedback loop, more than just cost savings, is what differentiates industry leaders from followers in the next phase of L&A competition.

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10

From Risk to Resilience: Modeling Longevity for Smarter Retirement Solutions

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Abstract

Longevity risk, defined as the risk of individuals living longer than anticipated, poses a significant challenge to retirement service providers by extending the duration of pension and annuity liabilities and pressuring traditional actuarial models. While longer lifespans are a societal achievement, they create financial, operational, and regulatory complexities for insurers and pension funds. Artificial Intelligence has emerged as a critical tool to augment conventional actuarial practices, offering advanced predictive capabilities and data-driven insights to manage this risk better.

This paper examines the key imperatives required for the successful implementation of AI in longevity risk management, including the modernization of data infrastructure, development of analytical expertise, assurance of model explainability, and governance. It also emphasizes the importance of compliance with regulatory and ethical standards and seamless integration into core business operations. Furthermore, it explores AI's practical applications and business implications, such as more accurate pricing and reserving, product and service innovation, and enhanced customer engagement.

The paper demonstrates that AI strengthens financial resilience against longevity risk and enables insurers to design more personalized, equitable, and sustainable retirement solutions. By reframing longevity risk as both a challenge and an opportunity, retirement service providers can leverage AI to ensure long-term viability, competitiveness, and greater value delivery in an era of increasing life expectancy.

Introduction

Longevity risk is the risk that people live longer than expected, which leads to higher-than-anticipated payouts on retirement or pension plans. This risk can significantly affect retirement service providers' financial stability and product design.

When retirees have longer lifespans, funds are required to provide benefits for additional years, which increases their liabilities. This may result in funding shortfalls unless contributions or investment returns also increase.

For annuity providers, products that guarantee lifetime income (such as life annuities) may become more costly. Underestimating longevity assumptions could lead to financial losses for insurers.

For life insurers, greater longevity results in higher annuity payouts and reduced death benefits payouts. Balancing between these factors is critical.

Longevity risk has also made retirement service providers rethink their pricing, reserving, investment strategies, product design and innovation, capital requirements, and customer payouts to ensure sustainability. Therefore, longevity risk is a double-edged sword: good news for individuals (living longer) but a significant financial challenge for retirement service providers.

Retirement service providers have started focusing on artificial intelligence to augment their traditional actuarial methods and manage and overcome the challenges of longevity risk. AI helps retirement service providers turn this risk from an uncertain liability into a manageable, data-driven challenge by improving forecasting, optimizing reserves and investments, creating innovative products, and delivering better customer engagement.

This paper details the main imperatives for insurers adopting artificial intelligence techniques, from data governance to regulatory compliance. We'll also examine real-world applications and the benefits of successfully integrating AI into longevity risk management.

Main Imperatives for Implementing AI in Longevity Risk Management

Adopting AI-driven predictive analytics for longevity risk is not a simple plug-and-play upgrade. It requires strategic and operational preparation.

Here, we outline the key imperatives, the critical components insurers need to have in place to leverage AI for longevity modeling successfully:

1. Data Infrastructure and Quality

AI thrives on large, integrated data sets; thus, insurers must invest in modernizing data infrastructure and creating a unified view of each customer.

Data Modernization: Relevant data might span underwriting files, claim histories, electronic health records, lab results, questionnaire responses, etc. Many firms are now building data lakes or warehouses to consolidate information. For example, one of our clients, a large Life and Annuity, employee benefits provider with ~ 280 million in force polices, has embarked on their data transformation journey, including consolidation onto a data lake, unified views, Customer 360, Advisor 360, prospects/leads 360, etc.

Data Quality is Gaining Importance: AI models are based on garbage-in and garbage-out principles. Historical records may have errors or inconsistencies (e.g., mis-coded cause of death or missing fields). Companies need data cleaning and validation processes.

2. Analytical Talent and Culture

Building and deploying AI models requires specialized skills. Insurers traditionally employ actuaries and statisticians who are experts in mortality, but may not all be versed in machine learning techniques.

Upskilling the actuarial team or hiring data scientists (and encouraging collaboration between them) is essential. Some leading insurers have created cross-functional "analytics centres of excellence" that bring IT, data science, and actuarial together on projects.

Equally, a culture shift is needed: reliance on AI outputs requires trust in models. If underwriters and actuaries view AI as a black box threat, they may resist its use.

3. Model Explainability and Governance

One major hurdle of machine learning models is their complexity and relative opaqueness ("black box" issue). In a business as conservative and regulated as insurance, any model affecting financial reserves or pricing must be well understood and validated.

Techniques to address explainability include:

Using simpler models or surrogate models for explanation. For instance, even if the primary model is a complex ensemble, one might run a simplified decision tree model on the same data to approximate the main factors.

Feature importance analysis (such as SHAP values) to quantify the variables driving predictions. This can provide insights like "the model placed 20% weight on age, 15% on blood pressure, 10% on diabetic status, etc., for this prediction."

Partial dependence plots to show how predicted life expectancy changes with a particular factor holding others constant.

4. Regulatory and Ethical Compliance

The use of AI on personal data raises concerns about privacy and fairness. Insurers must navigate regulations like the Health Insurance Portability and Accountability Act (HIPAA) for health information, the General Data Protection Regulation (GDPR) in the EU for personal data, and the recent AI-specific regulations (the EU AI Act, for example) that will demand transparency and non-discrimination. Ensuring compliance is an imperative from day one of any AI longevity project.

Data privacy models often require access to highly sensitive health data. Companies must obtain proper customer consent before using their medical information for analytics. Data security measures such as encryption and access controls are essential to prevent breaches.

AI models trained on such data can reflect societal biases, especially if they pick up on factors correlated with protected characteristics like race or income. It is crucial to monitor and mitigate these biases to ensure fairness.

Ethical transparency is also vital. For example, if a model predicts that a person will die significantly sooner than average, it raises questions about how that information is used. While such data might be used internally for pricing, there is a growing belief that customers should benefit from these insights. Navigating these ethical considerations is an ongoing challenge in the AI era.

Governance thresholds refer to predefined boundaries that determine how AI-generated scores or predictions can be used. For instance, longevity scores might be limited to advisory contexts unless validated for underwriting. These thresholds should be approved by internal model governance committees and subject to periodic review to ensure fairness, accuracy, and compliance.

Outcome metrics help evaluate the real-world impact of AI-driven longevity tools. These metrics can include customer engagement with longevity reports, changes in health behavior following AI-guided interventions, or improvements in annuity uptake among informed groups. Tracking such metrics ensures AI applications provide tangible value to customers while upholding ethical standards.

5. Integration Into Core Processes

Implementing an AI longevity model in isolation has limited value. The insights must be integrated into decision-making processes and systems. This is a significant operational imperative. Areas of integration include:

Underwriting and Pricing

▶ Insurers must update their underwriting guidelines to incorporate an "AI score" alongside traditional health ratings. Pricing actuaries must determine how to use model outputs, such as setting annuity purchase rates customized to an individual's score.

Valuation and Reserving

▶ Finance teams might use AI model outputs to set assumptions in GAAP reserve calculations or internal capital models. Actuaries will likely blend AI indications with judgment.

Product Development

▶ Teams designing new products can utilize AI analytics to identify opportunities. For example, if the model reveals specific customer segments with much lower risk, an insurer could create a new annuity product targeted at them with better rates.

Customer Engagement

▶ As noted, there's an opportunity to use longevity insights in customer communication. Some forward-thinking insurers might provide policyholders with a longevity report, not disclosing the full risk score (which could be sensitive), but with general guidance. This might turn an actuarial output into a client advisory service, deepening the relationship.

Applications and Business Implications

When implemented well, AI-driven longevity risk modeling can yield substantial benefits for insurance and retirement businesses. These span more accurate financial outcomes, innovative product opportunities, and improved customer experiences. In this section, we discuss the key applications and their business implications, essentially answering the question: How does better longevity prediction translate into value?

More Accurate Pricing and Reserving

One immediate impact of improved mortality forecasts is the pricing of annuities and other lifetime income products.

Risk-Adjusted Profitability

Fine-tuned pricing allows the insurer to operate with lower "noise" in results. It also potentially lowers capital strain since uncertainty is reduced.

Reserving Efficiency

For liabilities already on the books (in-force annuities, pension obligations), AI can help set aside more accurate reserves.

Experience Monitoring

AI models can also assist in ongoing monitoring. Instead of waiting for an annual actuarial analysis, management can quarterly (or even monthly) feed emerging experience into the model to see if longevity assumptions are holding or if recalibration is needed. This nimbleness means responsive pricing adjustments and reserve changes, maintaining financial soundness in real time.

Competitive Advantage

Traditionally, insurers price to a standard mortality table with buffers. If AI modeling reveals that a specific segment of applicants has significantly lower risk (say, due to healthy lifestyles), an insurer using that insight could offer them higher payouts (or lower premiums) than competitors who treat them as average. This can attract market share among low-risk customers.

Product and Service Innovation

Better understanding of longevity risk opens the door to new products and features:

Personalized Annuities and Payouts

▶ We may see precision annuities where each buyer gets a custom quote reflecting their health data. Some markets already have enhanced annuities for smokers or those with known health issues (offering higher income).

Longevity Shareable Products

▶ Insurers could create group products where people with extra-long life expectancy (per the AI model) might opt for slightly lower starting payouts in exchange for a bonus if they exceed a certain age, pooling risk among that group.

Integration with Health and Wellness

▶ If an insurer's AI can identify risk factors, products can be bundled with wellness programs. Some life insurers already do this on the life insurance side (John Hancock's Vitality program). Still, it's likely to extend into annuities/retirement, where keeping people healthy longer benefits both parties.

Longevity Insurance for Pension Plans

▶ Corporations managing pension plans also fear longevity risk. AI tools can be offered as a service by insurers or consultancies to help pension sponsors understand their population (e.g., this company's employees might live longer due to socio-economic factors, requiring larger contributions). This can lead to new business where insurers provide tailored longevity swaps or reinsurance solutions priced with AI models.

Fairness = Customer Trust

There is a potential marketing point in using AI to achieve fairer pricing. Customers often worry, "Am I getting a good deal on this annuity, or is the insurer building in huge cushions?" If an insurer can say, "We use the latest analytics to personalize your offer, so it's truly reflective of your health and lifestyle," health-conscious customers might respond well.

Value-Added Services

If an insurer's model identifies modifiable risk factors, it could create programs around those. For instance, if certain annuitants have high blood pressure, which is a risk, perhaps the insurer partners with a health service to offer free hypertension management coaching to those individuals.

Longevity Literacy

Many individuals underestimate how long they might live (or sometimes overestimate if they are very healthy). Insurers armed with better predictive tools can actually play a consultative role. For example, at retirement plan seminars or in one-on-one advisory, an insurer's representative could use an internally-developed app (powered by the AI model) to show a client different scenarios: "Based on people like you, there's a 30% chance you or your spouse live to 95. How can we ensure your income lasts that long?" This helps the customer appreciate the need for lifetime income products.

Transparency and Engagement

Some policyholders might appreciate knowing where they stand. There's a debate on how much to share (telling someone "Our model thinks you'll die at 82" is neither precise nor necessarily helpful). However, one concept could be providing a Longevity health score, which is like a credit score for your vitality, updated periodically. It could be phrased positively (e.g., "On a scale of 1 to 100, you are an 80, which is very good for your age group – this suggests above-average longevity potential. Keep it up!" or if lower, provide tips to improve).

All these customer-focused ideas revolve around one notion: using AI's deep insights not just internally but to build relationships and deliver value.

Conclusion

While longevity risk is a positive societal development, it remains one of the most significant financial challenges for retirement service providers. As people live longer than ever, insurers and pension funds must rethink how they price, reserve, invest, and design products to ensure sustainability.

AI offers a powerful complement by transforming longevity risk into a data-driven, manageable challenge. With the right foundations, robust data infrastructure, analytical talent, explainable models, regulatory compliance, and process integration, AI can deliver more accurate forecasts, improve pricing and reserving, enable innovative product design, and optimize risk management.

The business implications are clear: AI-driven longevity modeling enhances financial resilience through better capital allocation and risk-adjusted profitability and creates new opportunities to engage customers with personalized, fair, and value-added retirement solutions, gain a competitive advantage, deepen customer trust, and build more adaptive, future-ready retirement systems.

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11

Next-Gen Real Estate Insurance Brokerage Using AI to Anticipate, Advise, and Optimize Risks and Coverage

Authors

▸ Trupti Shah

▸ Uday Kumbhare

Artificial Intelligence (AI) shifts brokers from reactive processing to proactive, data-driven advisory. This paper outlines a practical workflow, from Schedules of Value (SoV) intake to renewals with controls, KPIs, and governance to improve speed, accuracy, and outcomes.

01
Executive Summary

The insurance brokerage industry is at a pivotal moment, driven by the rapid adoption of AI. Historically, brokers have responded reactively to client requests or claims events, but AI is enabling a new paradigm. It anticipates client needs, advises proactively on risk, automates key processes, and optimizes outcomes across the lifecycle. This transformation is most visible in the real-estate insurance sector, where large and complex portfolios demand speed, accuracy, and foresight.

This paper is written for brokerage leaders, placement and market-facing teams, exposure managers, and operations heads who need to navigate this shift. It details a practical workflow that applies AI across every stage of the brokerage process, from the intake of SoVs and data enrichment to portfolio segmentation, catastrophe modeling, placement, and renewals. It also embeds controls and governance to ensure transparency and compliance. Readers will also find guidance on addressing common fears such as bias in models, black box decisioning, escalating enrichment costs, and renewal leakage.

By embedding AI into brokerage operations, firms can move beyond transactional placement and policy administration to become trusted advisors, delivering foresight, optimizing placement strategies, and building resilience in an increasingly volatile real estate environment.

02
Industry Insights & Strategic Perspectives

Real estate insurance is expanding while risk complexity rises. Brokers, insurers, and property dealers need faster, more accurate ways to assess and price risk across large portfolios. In a previous engagement, we noticed a growing demand among clients to adopt a more strategic, data-driven method for risk assessment, especially as real estate insurance becomes increasingly complex. Assessing individual property-level risk across large, diverse portfolios proved crucial for accurately understanding exposures.

This method enabled more precise pricing and facilitated benchmarking against similar risk profiles, ultimately supporting more informed recommendations on coverages, limits, and deductibles. One core lever in this market is the placement and underwriting process, which determines premiums and coverage options, so each stakeholder is appropriately advised and protected.

Advances in data analytics and AI are transforming risk assessment and underwriting, improving efficiency and accuracy, so brokers and insurers can better understand risk profiles and tailor policies on real-estate assets, ultimately strengthening confidence among property owners. Read on to learn how AI operationalizes these shifts, from SoV intake and enrichment to modeling, placement, and renewals, with the controls and KPIs needed to scale safely.

03
Navigating Complexity

Insurers and brokers today manage large real-estate portfolios, each with its own risks and exposures. Historically, this has led to labor-heavy workflows, manual data entry, scattered risk assessments, and a focus on data collection over providing real advisory services. The result? Advisory work often gets overshadowed by operational tasks.

Imagine a broker managing a portfolio of commercial office buildings or residential properties across multiple states. The challenges are complex: dealing with different building codes, adjusting to changing flood zones, and handling new tenant risks. AI acts as a strategic partner. It can automatically extract property details from lease agreements, cross-check data with regulations in real-time, and alert you to properties affected by new maps or occupancy changes. These capabilities are shifting risk management from reactive to predictive.

Yet, we are witnessing a standard shift. The advent of AI and advanced analytics fundamentally redefines the broker's role. By automating data extraction, enriching exposure data with third-party intelligence, and leveraging sophisticated analytical models, brokers are now empowered to deliver insights and foresight that were previously out of reach.

This transformation is technological and strategic. Brokers who adopt AI are moving beyond simple transactions and policy management. They are becoming trusted advisors who foresee emerging risks, optimize coverage, and prepare clients to make informed decisions in an increasingly unpredictable environment.

To succeed in this new era, the explicit goal is to leverage digital tools, build ecosystem partnerships, and incorporate intelligence at every value chain stage. Those who can integrate these elements into a seamless, client-focused experience, that offers protection and true peace of mind, will win the next phase in real-estate insurance.

04

AI-Driven Brokerage in Practice: From Internal to Renewal

We discussed why real estate insurance brokerages need AI and the pressures that shape the market. This section now shows how it works in practice. AI enhances each stage of the brokerage workflow, from SoV intake to placement, binding, and renewal. The intent is to give leaders a step-by-step view of how brokers can embed intelligence into daily operations for measurable impact.

Step-by-Step Workflow: Real Estate Insurance Placement Process

Through our interactions with multiple brokers and managing general agents (MGAs), we have identified common challenges such as inconsistent SoV formats and missing or incomplete address information. These issues directly affect the ability to conduct meaningful exposure analysis.

As part of the exposure evaluation, data enrichment involves several steps, including geocoding, value assessment, COPE information, peril/hazard profiling, and CAT peril evaluation. These processes may occur either simultaneously or sequentially; however, in most cases, the initiation of third-party data sources is still handled manually.

By leveraging AI, we can eliminate a significant portion of these manual tasks that do not add value, allowing subject matter experts to focus on providing more insightful recommendations and advisory services. A structured, AI-enabled workflow enhances speed and accuracy, creating a clear, auditable path that aligns with client expectations and regulatory requirements.

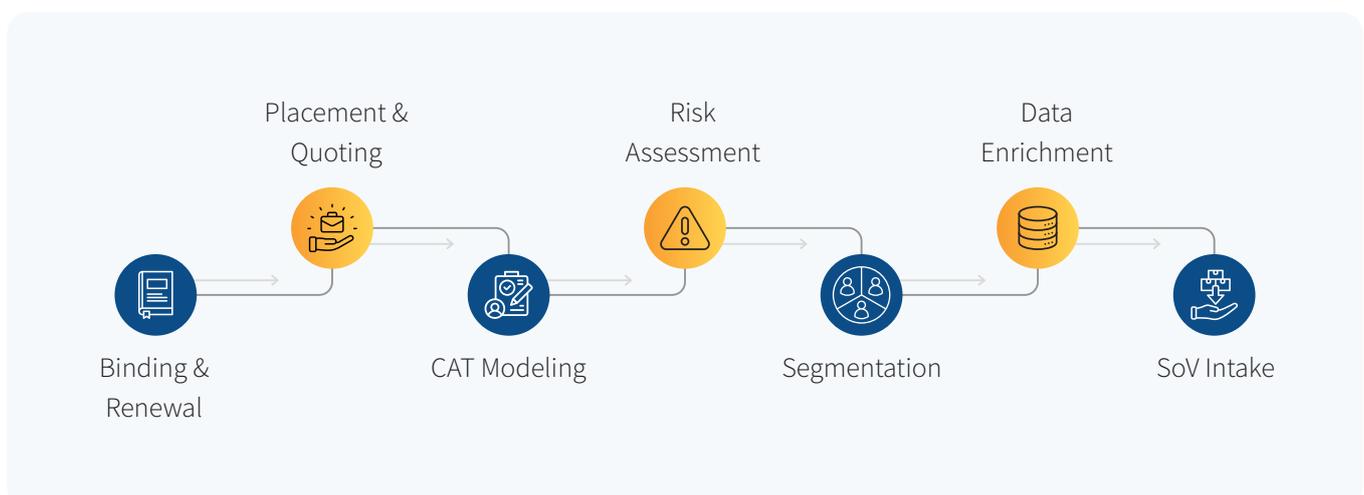## AI-Powered Brokerage Workflow Cycle

Figure 1: AI-enabled workflow from intake to renewal

Step 1: Standardize and Validate SOVs

Brokers typically receive SoVs as Excel attachments. These lists detail real-estate assets, addresses, insured values, construction types, occupancies, and more, but rarely arrive in a consistent format. Field names differ, data may be missing, and manual review is slow and error-prone, with repeated client follow-ups for clarifications.

How AI and analytics help

Parse any layout

Tools such as Archipelago, Hyperscience, Rossum, or UiPath can read incoming spreadsheets regardless of format. However, select the ideal tool per your enterprise's budget and requirements.

Normalize structure

Machine learning recognizes column headers, standardizes field names, and maps data to the correct fields in the exposure system.

Surface data issues early

Automated checks flag missing values, anomalies, and suspicious entries for review.

Add transparency and control

Dashboards show real-time data quality metrics so brokers see, at a glance, which fields are incomplete and which rows need attention.

Provide submission context

Side-by-side views compare the current SoV with prior submissions to highlight changes.

Step 2: Enrich Property Data with Precision and Context

Once SoVs are standardized and loaded into the system, the next challenge is ensuring every property record is complete, accurate, and ready for downstream risk assessment. Missing or inconsistent details on location, construction type, or occupancy can undermine underwriting quality and delay placement.

How AI and analytics help

Geocode with accuracy

AI tools we've researched, such as Azure Maps, Precisely, Google Maps API, or Esri ArcGIS, to correct addresses and assign latitude/longitude coordinates for precise mapping.

Standardize property attributes

Services like CAPE Analytics, ZestyAI, Betterview, or EagleView automatically classify construction and occupancy codes into industry-standard formats.

Correct errors on the fly

AI suggests fixes for misspellings or incomplete postal codes, improving match rates without heavy manual intervention.

Create a reliable foundation

Clean, enriched data ensures that subsequent modeling, placement, and advisory steps are based on trusted inputs.

Step 3: Segment Portfolios for Smarter Risk Grouping

After property data is enriched and standardized, brokers need to organize portfolios in ways that highlight exposure patterns and risk concentrations. Doing this manually is labor-intensive, especially with large, multi-state or global property sets, and often leads to oversight that affect placement quality.

How AI and analytics help

Automate grouping

Machine learning automatically clusters properties by geography, peril zones, or historical loss data.

Uncover hidden patterns

Dynamic risk clustering reveals exposures that are not obvious through manual review, such as properties sharing similar claims history or peril sensitivities.

Prioritize high-risk segments

AI quickly identifies portfolios within hurricane zones, floodplains, or high-crime areas, helping brokers focus resources where they matter most.

Enable targeted placement

Segmentation ensures underwriters receive submissions organized by meaningful risk categories, improving negotiations and coverage design.

Step 4: Integrate Third-Party Risk Scores Where They Matter Most

Even with standardized and segmented portfolios, brokers need more profound insights to refine risk assessment. Third-party data sources provide scores on perils like flood, wildfire, or crime, but enrichment can be costly and overwhelming if applied indiscriminately.

How AI and analytics help

Connect to specialized APIs

Tools we've researched, such as Riskmeter, HazardHub, Verisk FireLine, or CoreLogic, have features to enrich property records with external risk scores.

Control costs smartly

AI recommends which properties should receive which scores, avoiding unnecessary spending on low-exposure assets.

Filter relevance

Algorithms flag the most critical results, such as newly flood-prone properties or assets in wildfire zones, so brokers focus on actionable insights.

Support informed placement

Enriched, targeted data strengthens submissions, giving insurers confidence in risk profiles and reducing back-and-forth clarifications.

Step 5: Run Catastrophe Models with AI-Guided Parameters

With enriched property data in place, brokers must quantify potential losses from perils such as floods, hurricanes, and earthquakes. This step is critical for designing coverage structures, but selecting the right models and parameters is complex and often inconsistent across portfolios.

How AI and analytics help

Automate model readiness

AI ensures each property record includes the required attributes: coordinates, construction details, occupancy, and insured values, before submission.

Recommend best-fit models

AI-driven engines analyze property characteristics and historical data to suggest the most suitable catastrophe models and parameters.

Enhance efficiency

Automated selection and configuration reduce the time spent on trial-and-error setups.

Deliver tailored insights

Outputs are customized to the unique risk landscape of each client, making negotiations with underwriters more evidence-based.

Support compliance

Documented model choices and parameter settings create an auditable trail for regulatory and client reporting.

Step 6: Compare and Negotiate Quotes with Data-Backed Insights

Once catastrophe modeling is complete, brokers move into placement and quoting. This phase often involves multiple insurer submissions, each with terms, limits, deductibles, and exclusions. Manually comparing these details is time-consuming and prone to oversight, which can weaken negotiation outcomes.

How AI and analytics help

Automate quote comparison

AI highlights key differences across quotes, terms, limits, deductibles, exclusions, in a clear, side-by-side format.

Guide negotiation strategies

Analytics leverage historical outcomes and market benchmarks to suggest data-driven negotiation points.

Enhance client confidence

Transparent comparisons give clients clear visibility into trade-offs, improving trust in broker recommendations.

Secure optimal coverage

With AI-driven insights, brokers can push for the most competitive terms aligned to client needs.

Step 7: Bind Policies and Automate Ongoing Servicing

After quotes are finalized and terms are agreed, brokers must bind policies accurately and keep coverage current throughout the policy term. Manual issuance, endorsements, and renewal prep can be slow, error-prone, and difficult to audit across large portfolios.

How AI and analytics help

Accelerate issuance

Auto-fill binders and policy schedules from approved quote data reduce re-keying and prevent discrepancies.

Detect changes in real time

Monitor address updates, occupancy shifts, renovations, or new compliance requirements; flag items that require endorsements.

Streamline endorsements

Suggest endorsement types, pre-populate forms, and route approvals with clear audit trails.

Reduce renewal leakage

Track expiring limits, underinsured assets, and market changes; generate a renewal evidence pack with loss summaries and updated risk metrics.

Maintain compliance and transparency

Log decisions, document rationale, and store artifacts for regulator and client reviews.

These AI-driven enhancements transform insurance placement and ongoing management from manual, reactive tasks into proactive, intelligent workflows that deliver greater accuracy, efficiency, and value throughout the insurance lifecycle.

Conclusion
The AI-Driven Future of Real-Estate Insurance Placement

The placement process in real-estate insurance is data-heavy, complex, and highly collaborative. AI and advanced analytics can significantly reduce common challenges, from data quality and integration to enrichment, modeling, and reporting.

These technologies automate manual tasks while offering actionable insights, improving workflows, and supporting better decision-making for brokers, clients, and insurers. By integrating AI at every stage, from SoV ingestion to policy binding, brokers can provide faster, more precise, and more strategic insurance placements, leading to better outcomes for all real estate insurance supply chain stakeholders. Still, we suggest the following takeaways for beginners:

- Treat AI adoption as a process redesign, embedding governance, KPIs, and change management early, to avoid stalled pilots.
- Avoid overengineering. Start with low-hanging, high-volume use cases (e.g., SoV validation) before scaling to advanced modeling or pricing engines.
- Don't assume vendor models are "plug-and-play." Establish a model validation and audit framework to detect bias, misaligned assumptions, or black-box decisions.
- Build talent depth alongside tools. Train brokers and analysts to question AI outputs, interpret results, and explain recommendations confidently to clients and regulators.

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About the Authors

With over 18 years in the insurance domain, mainly in insurance brokerage, **Trupti** has international client experience and expertise across diverse operations and lines of business. She specializes in managing complex projects, leading process improvements, and building strong stakeholder relationships within the P&C insurance sector. Her leadership in transitions, team establishment, and collaboration with clients and insurers underscores her comprehensive industry prowess.

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Uday has over 27 years of experience in insurance technology, brokerage, and industrial engineering. He led the development of LTM's strategic solutions like iCEOn and AccuRUSI. An expert in P&C insurance, he has worked as a business solution architect across the insurance value chain, specializing in digital transformation, automation, and platform solutions using CRM Dynamics, BPM, and Low Code/No Code.

Uday Kumbhare

Director - Brokerage Business,
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Transforming Reinsurance: The Impact of AI, Generative AI, and Agentic AI

Author

▶ Pradeep Hatode

Abstract

Artificial Intelligence (AI), including generative and agentic AI, is significantly transforming the reinsurance industry by enhancing risk assessment, operational efficiency, and innovation. Despite historical reluctance due to legacy systems, regulatory complexity, and risk aversion, the industry is adopting AI to address challenges such as emerging risks, data limitations, and regulatory pressures. The challenges of AI adoption stem from the industry's conservative culture, reliance on legacy systems, and the importance placed on face-to-face interactions. These factors have slowed AI integration, further hindered by regulatory constraints and a limited understanding of its benefits.

The advantages of Gen AI include the ability to model novel scenarios like climate change and pandemics, dynamically adjust risk assessments using real-time data, and provide personalized quotes tailored to individual properties, improving pricing accuracy. Since 2024, Agentic AI has automated workflows in commercial insurance and reinsurance, with platforms like Akira.ai and Alltius demonstrating enhanced underwriting and quoting efficiency through predictive risk scoring and reinforcement learning agents. Regulatory and performance impacts indicate that agentic AI is reshaping metrics and prompting new regulatory frameworks that require organizations to align AI strategies with compliance to protect data and maintain market stability, making AI adoption essential for competitive advantage.

01
Introduction

Reinsurance, often referred to as 'insurance for insurance companies' is a contract between a reinsurer and an insurer. In this agreement, the insurance company, known as the cedent, transfers its risk to the reinsurance company. The reinsurance company then takes on all or a part of one or more insurance policies issued by the cedent. These reinsurance contracts can be negotiated directly with a reinsurer or arranged through a third-party, such as a reinsurance broker or intermediary. Additionally, reinsurers can purchase reinsurance protection themselves, a process referred to as 'retrocession.'

One-off for a single policy: Facultative reinsurance

There are two ways through which a reinsurance contract can be arranged.

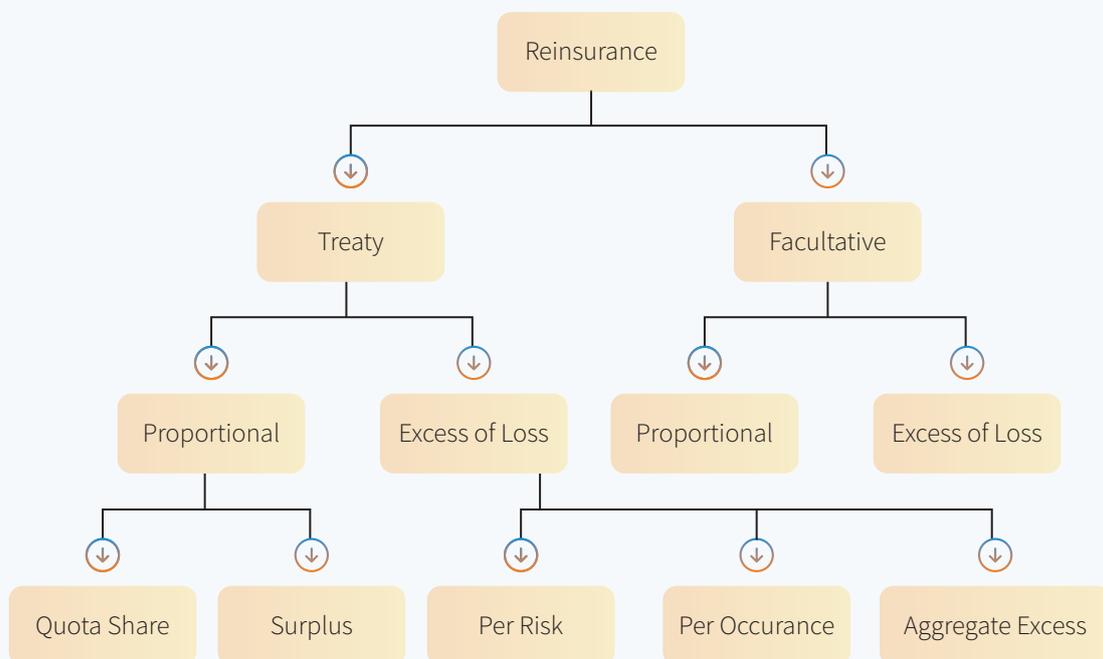**Automatic for a defined group of policies:** Treaty reinsurance

Figure 1: Forms of reinsurance

In the U.S., the main forms of reinsurance are facultative reinsurance, which covers individual and specific risks, and treaty reinsurance, which covers a broad group or an entire portfolio of policies. Treaty reinsurance is further divided into proportional (where risks and premiums are shared by a fixed ratio, like quota share or surplus share) and non-proportional (where the reinsurer pays claims only after a certain predetermined amount is exceeded, such as excess of loss).
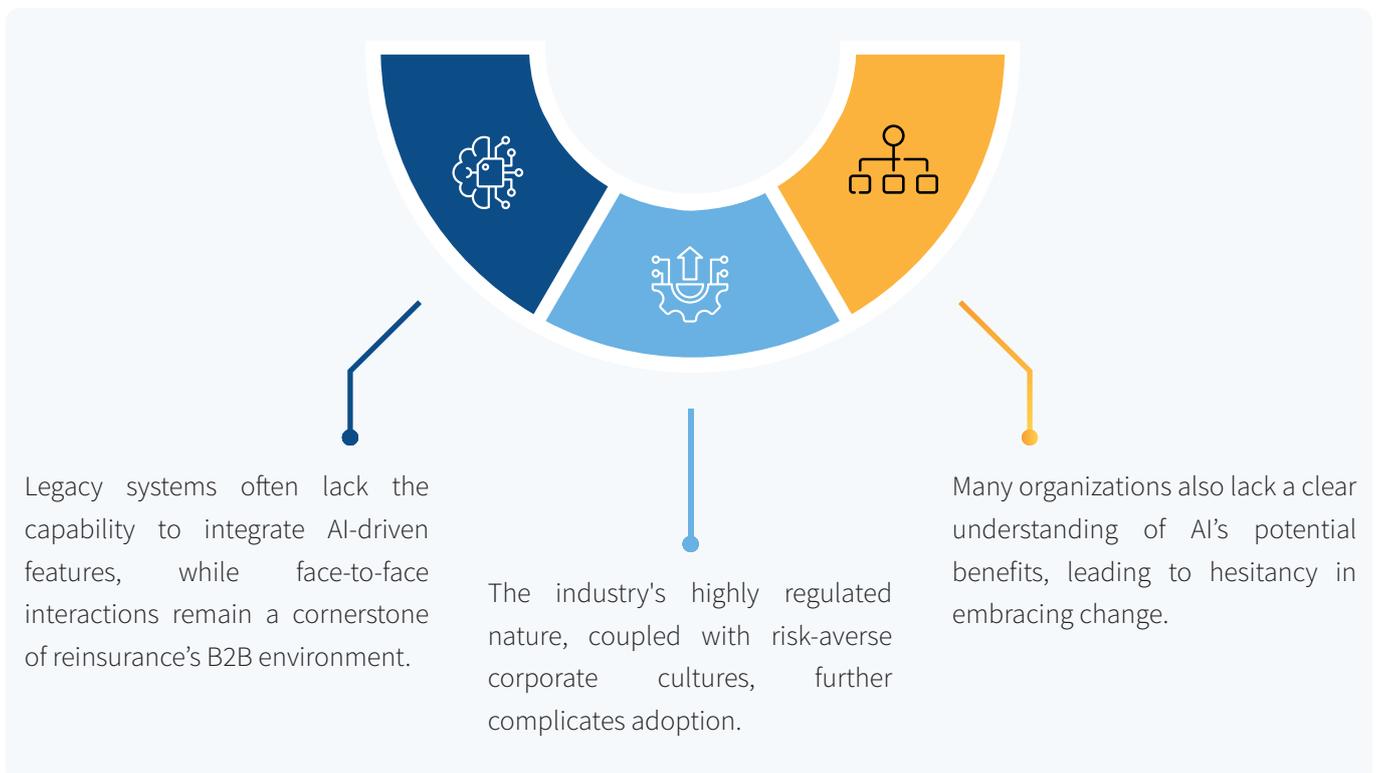
U.S. reinsurance markets witnessed a notable shift towards more favorable conditions for buyers during 2025's mid-year renewals. This change was driven by an abundance of capacity, which led to lower pricing and expanded coverage options for insurers with strong loss records, as per Aon's midyear market analysis.

The reinsurance industry's capital increased to USD 20 billion by the end of Q1 2025, driven by the retained earnings of established reinsurers.

The reinsurance industry, historically conservative and risk averse, has been slower to adopt new technologies, including AI.

There are several factors to adopt AI:

Legacy systems often lack the capability to integrate AI-driven features, while face-to-face interactions remain a cornerstone of reinsurance's B2B environment.

The industry's highly regulated nature, coupled with risk-averse corporate cultures, further complicates adoption.

Many organizations also lack a clear understanding of AI's potential benefits, leading to hesitancy in embracing change.

AI is transforming the reinsurance industry by enhancing risk assessment, improving operational efficiency, and fostering innovation in product development. Reinsurers are also leveraging AI to analyze vast datasets, personalize policies, streamline underwriting, and automate document generation.

While AI's initial uptake has been more noticeable in B2C models, its potential in the B2B reinsurance sector is becoming increasingly clear. The Lloyd's Insurance Market, historically recognized for its traditional manual operations, has recently begun a phased digital transformation of its reinsurance processes, signaling a wider industry shift.

02

How Generative AI Can Unlock Hidden Profits and Mitigate Emerging Risks

The reinsurance market faces numerous challenges: high inflation costs, frequent disasters driving claims, and rising interest rates leading to pressure on capital attractiveness. Further, data limitations and outdated models hinder accurate risk assessment, while shifting regulations and heightened compliance demands add further strain.

Collaboration on data-driven solutions, technology adoption, and navigating the regulatory landscape are key to ensuring the market's resilience.

There are three ways to help with reinsurance data, pricing, and mitigating rating inadequacy concerns.

Capturing emerging risks

Unlike traditional AI/ML models that primarily rely on historical data, Gen AI can create novel scenarios and events. This is crucial for capturing emerging threats like climate change, cyberattacks, and pandemics, which may not be adequately represented in historical data.

Dynamic risk assessment

Gen AI excels at creating new data based on existing patterns and trends. This enables it to dynamically adjust risk assessments based on real-time environmental data, social media sentiment analysis, and other dynamic factors, leading to more accurate pricing.

Personalized quotes

Gen AI can generate unique and tailored solutions for each property within a treaty, considering its specific characteristics and evolving risk profile. This allows for more precise pricing, avoiding the 'one-size-fits-all' approach that is inherent in traditional models.

In the realm of claims management, a recent analysis by BCG reveals even more promising prospects. The adoption of Gen AI could potentially reduce claims payouts by 3–4% by enhancing the accuracy of damage assessments and improving fraud detection and prevention.

03
Agentic AI in the Reinsurance Industry

AI has already transformed various aspects of the reinsurance industry. For instance, chatbots manage customer inquiries, while machine learning models evaluate risks. Agentic AI marks a pivotal evolution in artificial intelligence, emphasizing what AI can achieve rather than what it can interpret or analyze.

The reinsurance industry's adoption of agentic AI has primarily focused on automating the submission–to–quote workflow, with various implementations demonstrating measurable success. Leading carriers, brokers, and reinsurers are developing sophisticated AI platforms with compliant regulatory frameworks to achieve operational excellence.

How does agentic AI in reinsurance differ from other types of AI?

Traditional AI

Typically rule-based or predictive, it identifies trends, flags anomalies, or scores risks, but does not act on those findings. For instance, a traditional AI model might detect a fraudulent claim, but it won't file the report or halt the payout.

Gen AI

Concentrates on generating new content, such as drafting policies or addressing customer inquiries. It excels in communication tasks but relies on external systems and prompts.
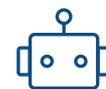
Agentic AI

AI agents can handle a customer inquiry, evaluate relevant data, create a personalized policy offer, and start the sign-up process, all in one seamless operation. They function like digital employees who understand the rules and complete tasks from the beginning to the end.

04

AI, Gen AI, and Agentic AI in the Reinsurance Industry: Use Cases

Use Case 1

Triaging

Reinsurers rely on subjective evaluations to decide whether to quote, decline, or refer submissions based on limited information and individual risk tolerance. This inconsistent and time-consuming process can lead to missed opportunities or suboptimal placements.

Create AI-driven triaging algorithms trained on historical data and internal risk appetite models

These algorithms evaluate each submission by considering various factors such as property specifications, historical claims, mitigation efforts, and competitor insights. They then recommend the most appropriate reinsurer for each risk, ensuring optimal placement and efficient resource allocation.

Use Case 2

Rating and quoting

Traditional pricing models rely on historical data and static risk factors, minus emerging threats like climate change, leading to inaccurate pricing and potential losses.

Deploy dynamic risk models powered by Generative AI

These models utilize a variety of data sources, including historical claims, property characteristics, real-time weather and environmental data, and social media sentiment analysis, to predict future risks more accurately. This allows reinsurers to generate personalized quotes that accurately reflect the true risk profile of each property, ensuring profitability and sustainable growth.
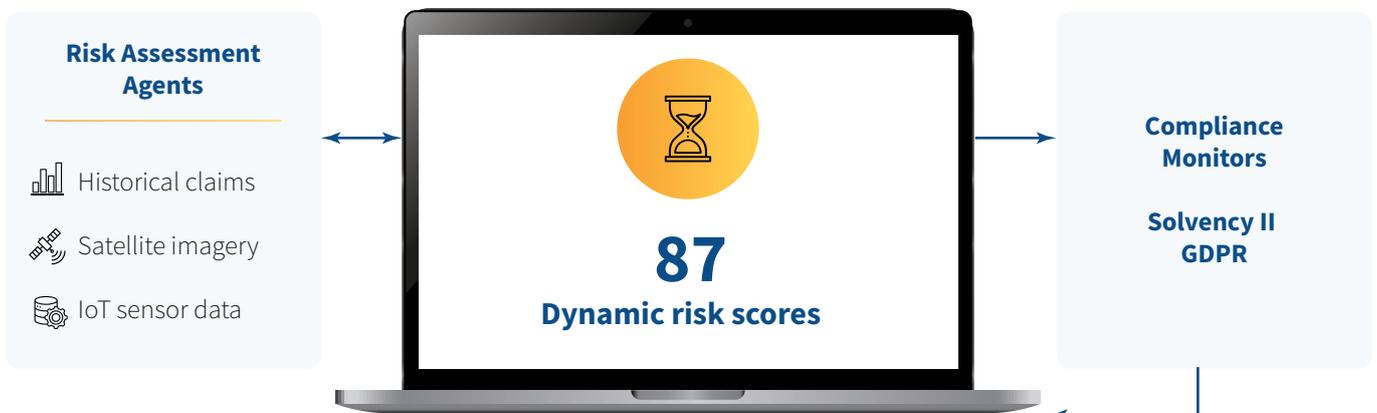
Use Case 3
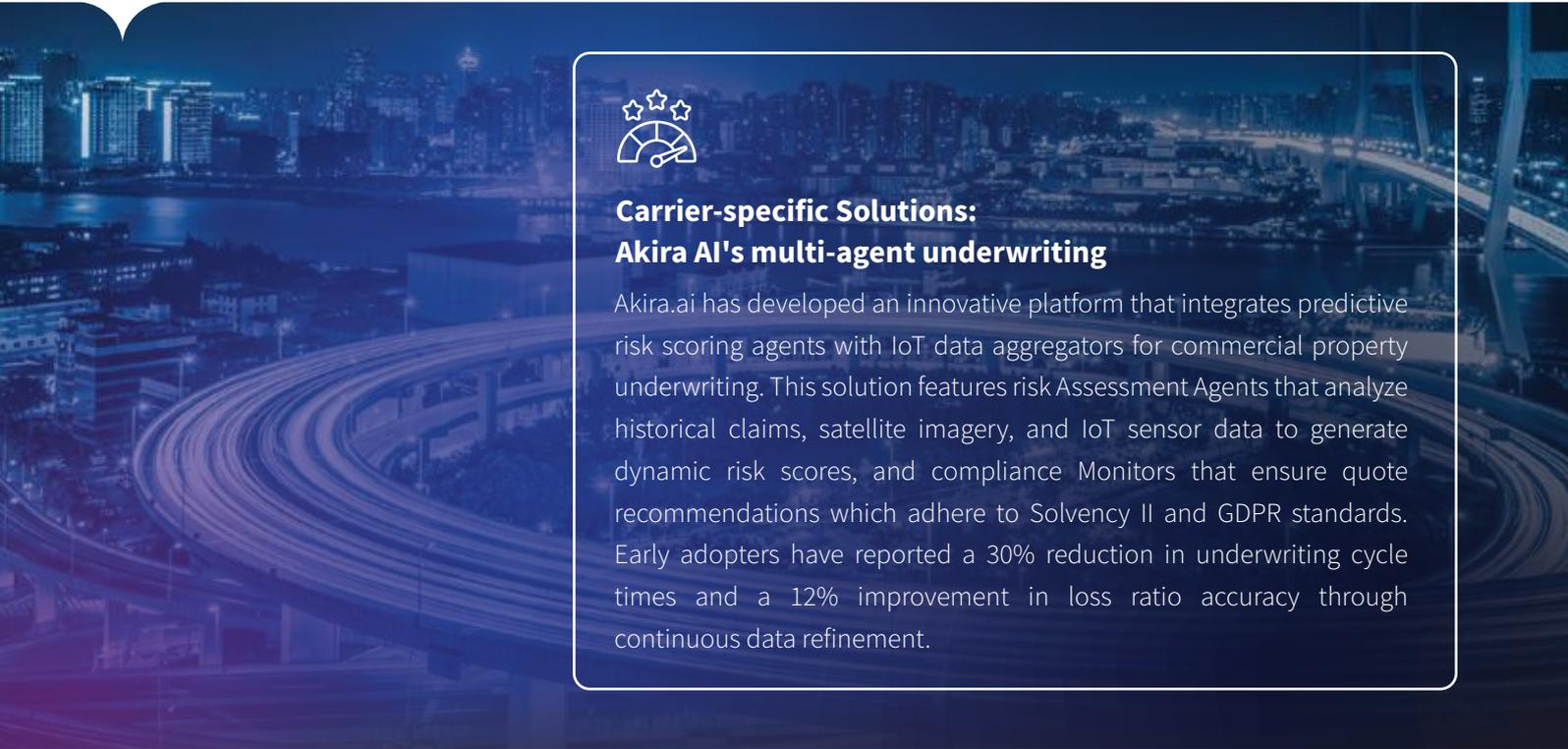
Carrier-specific Solutions:
Akira AI's multi-agent underwriting

Akira.ai has developed an innovative platform that integrates predictive risk scoring agents with IoT data aggregators for commercial property underwriting. This solution features risk Assessment Agents that analyze historical claims, satellite imagery, and IoT sensor data to generate dynamic risk scores, and compliance Monitors that ensure quote recommendations which adhere to Solvency II and GDPR standards. Early adopters have reported a 30% reduction in underwriting cycle times and a 12% improvement in loss ratio accuracy through continuous data refinement.

Akira.ai
Integrated AI for Property Underwriting

Risk Assessment Agents

- Historical claims
- Satellite imagery
- IoT sensor data

87
Dynamic risk scores

Compliance Monitors

**Solvency II
GDPR**

30% reduction in cycle times

12% improvement in loss ratios

Figure 2: Akira AI's Multi-agent Underwriting

Use Case 4

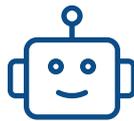## Reinsurance innovation: Alltius' adaptive quoting

Alltius has led the way in utilizing reinforcement learning agents for facultative reinsurance quoting, developing an advanced system that processes submissions with exceptional efficiency. Their platform includes real-time exposure modeling against 15 catastrophe models, automated peer benchmarking across over 200 historical treaties, and natural language negotiation agents for cedant-broker interactions. This innovative approach has led to a 25% increase in quote acceptance rates by better aligning terms with cedants' evolving risk appetites during renewal cycles.

Alltius

Reinforcement Learning in Facultative Reinsurance

Catastrophe Modelling

Real-time exposure

15 catastrophe models

Automated Quoting

Catastrophe Modelling

200+ treaties

Natural language agents

25% **increase in quote acceptance**

Figure 3: Alltius' Adaptive Quoting

Benefits of Agentic AI in the reinsurance industry

Automated data ingestion

▶ Agentic AI ingests and processes large volumes of unstructured data, such as cedents' bordereaux and treaty documents, which traditionally arrive in various formats like PDFs or spreadsheets. It extracts, normalizes, and validates key data points, significantly reducing manual processing time and error rates.

Dynamic pricing and portfolio optimization

▶ Agents can analyze historical claims data, real-time market trends, and external factors to suggest optimal pricing for treaty renewals. By simulating thousands of potential risk outcomes, they can also help reinsurers optimize their entire portfolio, balance risks, and allocate capital more efficiently.

Improved catastrophe modeling

▶ AI agents can incorporate diverse data sources, including satellite imagery and weather data, to enhance catastrophe models and accurately predict potential losses from natural disasters. For example, Munich Re's 'NATHAN' platform uses AI to analyze geospatial data and detect affected areas in real-time, enabling faster loss estimation.

Real-time exposure monitoring

▶ Reinsurers can gain a continuous, global view of their exposure across different cedents, geographies, and perils. AI agents can provide real-time dashboards and alert risk managers when concentration limits or exposure thresholds are breached.

Emerging risk identification

▶ By analyzing large and diverse datasets, AI can identify emerging threats like cyberattacks or climate-related risks that traditional models might miss.

Performance metrics and implementation challenges

Agentic AI transforms performance metrics with impressive results, proving its value even through early setbacks. For organizations aiming to lead innovation, embracing its potential—while managing its risks—is no longer optional, but essential.

Regulatory framework and compliance

Agentic AI is reshaping insurance operations, prompting regulators to introduce new oversight frameworks. This evolving regulatory landscape, where AI governance intersects with traditional insurance supervision, poses complex challenges, especially in risk assessment and pricing. For CXOs, the imperative is clear: Navigating this dual compliance environment is about avoiding pitfalls and securing a competitive edge. Organizations that proactively align their AI strategies with emerging regulations will be better positioned to protect sensitive data, ensure market stability, and lead the industry forward.

Conclusion

This POV highlights how Gen AI mitigates emerging risks, and agentic AI is reshaping performance metrics and prompting new regulatory frameworks. This makes it essential for organizations to align their AI strategies with compliance to protect data and maintain market stability. AI adoption is no longer optional but essential to gain a competitive advantage in the reinsurance industry.

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Redefining Consultative Selling in Life Insurance: AI as the Strategic Catalyst

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01
Abstract

Consultative selling has evolved into AI-augmented consultative selling. The life insurance industry is at crossroads. Traditional, product-centric sales approaches no longer resonate with today's digitally informed and financially aware customers. Advisors who continue relying solely on intuition or conventional scripts risk losing relevance. AI and Machine Learning (ML) are now the strategic levers that transform sales from transactional engagements into personalized, data-driven, and trust-based customer journeys. This is not about replacing human agents; it is about amplifying their capabilities to deliver timely, meaningful, and financially aligned advice.

02
Industry Context and Challenge

Before exploring AI-augmented consultative selling, it's essential to understand what consultative selling means in the context of life insurance. At its core, consultative selling is about engaging in meaningful dialog with customers to uncover their unique needs and long-term financial goals.

It emphasizes understanding a customer's life circumstances and financial aspirations rather than just pushing a product. This approach fosters trust and builds lasting relationships, especially important in life insurance where policies often span decades.

Unlike traditional sales methods that rush into product pitches, consultative selling emphasizes listening and advising. Unfortunately, many agents still default to product-first tactics, often overlooking the evolving expectations of today's customers. True consultative selling requires:

Deep insights into a customer's financial obligations, lifestyle, and life stage

The ability to anticipate needs before customers articulate them

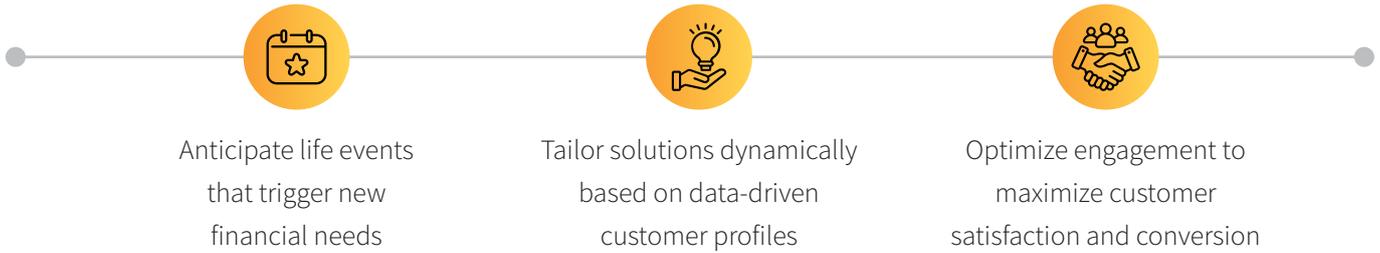**Strategic, long-term guidance that aligns coverage with personal financial goals**

AI now makes this depth of insight achievable, delivering precision, predictive foresight, and real-time recommendations that were previously impossible on scale.

03
Strategic Perspective and Framework

Consultative selling should elevate agents to advisors and strategic partners, rather than mere transaction facilitators. With AI, agents are empowered to:

Anticipate life events that trigger new financial needs

Tailor solutions dynamically based on data-driven customer profiles

Optimize engagement to maximize customer satisfaction and conversion

Introducing the LEADERS Framework

The LEADERS framework is a bold blueprint for modern life insurance sales, aligning AI-driven insights with human empathy:

LEADERS
AI-Augmented Consultative Selling

L	E	A	D	E	R	S
Life event-driven engagement	Empowerment through digital tools	Advisor-led financial planning	Data-driven segmentation	Enhanced lead scoring	Relationship-based selling	Sales funnel optimization

This framework positions every interaction as a strategic opportunity, where agents act as catalysts for lifelong financial well-being rather than transactional intermediaries.

1. Life Event-Driven Engagement

From my experience, the most pivotal moments in a person's life often drive decisions about life insurance. Marriage, the birth of a child, or buying a home, these events carry new responsibilities and increase the need for financial security.

Too often, I've seen insurers miss these windows of opportunity. Instead of proactive engagement, they rely on outdated, generic outreach. This is where AI brings a dramatic shift.

By analyzing digital footprints, search behavior, and financial activity, AI can predict when these life events are likely to occur. This isn't guesswork. It's targeted, data-driven engagement that allows insurers to support agents with timely, relevant insights.

Consider this scenario: a young couple starts browsing mortgage calculators and baby products online. AI immediately flags these activities, triggering a prompt for an agent to reach out with a family protection plan. The outreach feels natural and well-timed and not like a cold sales pitch.

Deloitte reports that insurers using predictive event modeling improve customer acquisition timing by up to 25%, which leads to higher policy uptake. Real-time data from mobile apps and online behavior now feeds directly into these models, creating an always-on system that keeps agents in sync with their customers' life stages.

When insurers harness this kind of intelligence, they move from simply selling policies to becoming trusted advisors during life's most important milestones.

2. Empowerment Through Digital Tools

Over the years, I've seen how many talented agents are held back by outdated systems. Clunky tools and manual processes slow them down and frustrate customers. It's no surprise that even skilled advisors sometimes struggle to deliver a seamless, personalized experience.

AI-powered platforms completely change this dynamic. These platforms provide intuitive interfaces, adaptive product configuration, real-time behavioral tracking, and "Next Best Action" suggestions. They equip agents to respond quickly and confidently, which strengthens customer trust.

Let me share a real example. An agent I worked with recently received automated prompts about a new product feature, along with insights from customer feedback trends. When he met his client later that day, he was able to have a more informed, tailored conversation. This kind of readiness makes all the difference in building trust.

Conversational AI tools take this a step further. Imagine an agent sitting with a customer who is worried about retirement planning. With AI-driven simulators, the agent can model different "what if" scenarios on the spot. Together, they explore how factors like inflation, income growth, and lifestyle changes could affect future coverage needs.

This kind of interaction turns a sales pitch into a collaborative planning session. McKinsey's data backs it up: insurers who digitized their agent platforms saw a 14% increase in sales volumes over two years. This proves that when agents are digitally empowered, they can elevate their role from seller to trusted financial partner.

3. Advisor-Led Financial Planning

I've always believed that life insurance agents should act as financial guides, not just salespeople. Their role is to help customers align insurance coverage with broader goals like retirement planning, income protection, and legacy building.

But doing this is challenging without the right tools. AI-driven financial planning platforms integrate customer data from multiple sources, giving agents a 360-degree view of financial health. Machine learning models can then calculate optimal coverage and identify gaps.

For example, an agent working with a mid-career client can use AI to model retirement income gaps. The system might recommend a balanced mix of term and whole life policies tailored to the client's future needs. This approach creates trust because it's based on hard data rather than assumptions.

Accenture's research shows that agents using AI-powered planning tools see a 20% increase in customer satisfaction and a 15% drop in policy lapse rates. In my experience, these numbers reflect something bigger—the shift toward more meaningful, customer-first conversations.

4. Data-Driven Customer Segmentation

Consultative selling starts with truly understanding the customer. In the past, segmentation relied heavily on simple demographic data like age or income. That's no longer enough.

AI and machine learning allow insurers to dig much deeper, analyzing behavioral patterns, transactional histories, and even psychographic traits. By uncovering these hidden insights, agents can tailor outreach and product recommendations with unprecedented precision.

One example I've seen is a customer who frequently engages with financial planning content on social media and has recently updated their marital status. AI picks up these signals and prompts the agent to reach out with targeted life insurance offerings.

McKinsey reports that insurers using advanced analytics for segmentation have improved their lead conversion rates by 30–40%. This kind of lift can't be ignored, it's proof that better understanding leads to better engagement.

5. AI-Powered Lead Scoring

Not every lead has the same potential. I've watched agents spend countless hours chasing cold prospects while hot leads slip through the cracks. AI fixes this problem through intelligent lead scoring.

Here's how it works: if a prospect repeatedly visits an insurer's website, downloads retirement planning guides, and engages with a chatbot about income protection, the system assigns them a high score. The agent is immediately alerted and can follow up with a personalized message at the right moment.

Accenture's data shows that insurers using AI-based lead scoring have boosted conversion rates by up to 20%.
AI also improves sales funnel management by pinpointing where customers drop off. For instance, if many prospects abandon their applications after receiving a quote, AI might suggest testing different quote formats or follow-up messages.

I've seen this firsthand. After one insurer applied AI insights to redesign their quote process, completed applications rose significantly—proving how powerful small, data-driven tweaks can be.

LTM

6. Sales Funnel Optimization

AI is transforming how insurers manage their sales funnels by pinpointing bottlenecks, predicting drop-off points, and suggesting precise interventions. This helps streamline processes, reduce friction, and ensure prospects receive timely follow-ups or support, ultimately enhancing the overall customer experience.

McKinsey reports that insurers using AI-driven funnel analytics cut acquisition costs by 15% and increased policy conversions by 25%. Predictive models now anticipate where a prospect is likely to disengage, enabling agents to send timely nudges or deliver personalized content.

For instance, when AI detects a spike in drop-offs after the quote stage, it may recommend A/B testing new quote formats and follow-up strategies. Implementing these changes often results in a noticeable rise in completed applications.

7. Agent Performance Analytics

AI-powered analytics give managers real-time visibility into agent performance across metrics like conversion rates, retention, and customer satisfaction. Deloitte found that this data-driven approach boosts productivity by 22% and improves customer satisfaction by 17%.

By analyzing trends, AI highlights coaching opportunities and even suggests personalized training paths. For example, if an agent engages well but struggles to close deals, the system flags this pattern and recommends specific skill-building modules to address gaps and drive better outcomes.

04
Key Takeaways and Actionable Recommendations

Adopt Predictive Customer Segmentation– But Beware of Data Quality Pitfalls

▶ AI and machine learning can transform customer segmentation, but poor data quality or incomplete integration across systems can lead to misleading insights. By enriching data with insights from social media, financial behavior, and lifestyle patterns, insurers can craft hyper-personalized outreach strategies.

Engage Customers at Life Milestones –Avoid Over- Automation

▶ While life event modeling enables timely engagement, over-reliance on automated triggers can result in impersonal outreach or "creepy" customer experiences. Balance automation with human judgment, ensuring agents review and personalize AI-generated prompts before reaching out.

Empower Agents with AI-Driven Financial Planning–Don't Underestimate Change Management

▶ Equip agents with AI tools that simulate real-world scenarios and help customers visualize future needs. This strengthens trust and enables long-term financial planning, ultimately improving satisfaction and reducing policy lapse rates. Common pitfalls include inadequate training and resistance to change.

Digitally Enable Advisory Experience– Guard Against Ethical and Privacy Risks

▶ AI-powered platforms can streamline workflows and personalize experiences, but they also introduce risks around data privacy and ethical use. Insurers must establish clear guidelines for responsible AI, ensure compliance with regulations, and be transparent with customers about how their data is used.

Optimize Sales Strategy with AI Analytics– Boost Efficiency with Proven Data Models

▶ Leverage AI for lead scoring and prioritization, ensuring agents focus on the highest-value prospects. This reduces acquisition costs and creates opportunities for tailored coaching. With AI as a co-pilot, agents can navigate every step of the sales process with precision and confidence.

Conclusion and Future Outlook

As insurers embrace consultative selling, one truth becomes clear: AI is not a replacement for human connection, but a powerful ally. The goal isn't to automate empathy, but to augment it with intelligence and foresight.

From my experience, organizations that rush to deploy AI without aligning it with their core strategy often see limited results. AI initiatives must be guided by a clear vision and deep understanding of customer needs. Data privacy, ethical use of AI, and continuous training are not optional checkboxes; they are foundational to building trust.

The future of life insurance will be shaped by those who balance technology with the human touch. Agents who pair empathy with data-driven insights will become true advisors, not just salespeople. For enterprises, the lesson is simple: start small, scale thoughtfully, and never lose sight of the people at the heart of the business.

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Navigating the AI Ecosystem in Insurance: Real-World Strategies for Leaders

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Abstract

Insurance leaders today face a complex challenge: Integrating AI enterprise platforms across underwriting, claims, customer engagement, and compliance, while navigating legacy systems, siloed data, and evolving regulations. Only a few insurers have extracted outsize value from AI to gain a competitive edge. Joining their ranks requires a strategic, comprehensive approach that rewires the enterprise. This paper explores how insurers can overcome these hurdles by focusing on three key pillars: Strategic partnerships, scalable platforms, and transformation playbooks. Drawing on real-world examples and industry research, this article offers a roadmap for building a resilient AI ecosystem that balances innovation with governance and delivers measurable business outcomes.

Introduction

Every time a technological shift transforms the world, businesses must adjust or potentially decline into irrelevance. The Industrial Revolution allowed for a shift from a largely simple to an uplifted lifestyle. The birth of the internet further enhanced this with real-time communication, e-commerce, cloud computing, and more. Now, it's AI's turn to drive innovation and reshape industries. Notably, the insurance industry is undergoing digital transformation, driven by rising customer expectations, competitive disruption, and regulatory evolution. At the same time, insurers are also increasingly under pressure to reduce operational costs and improve risk accuracy.
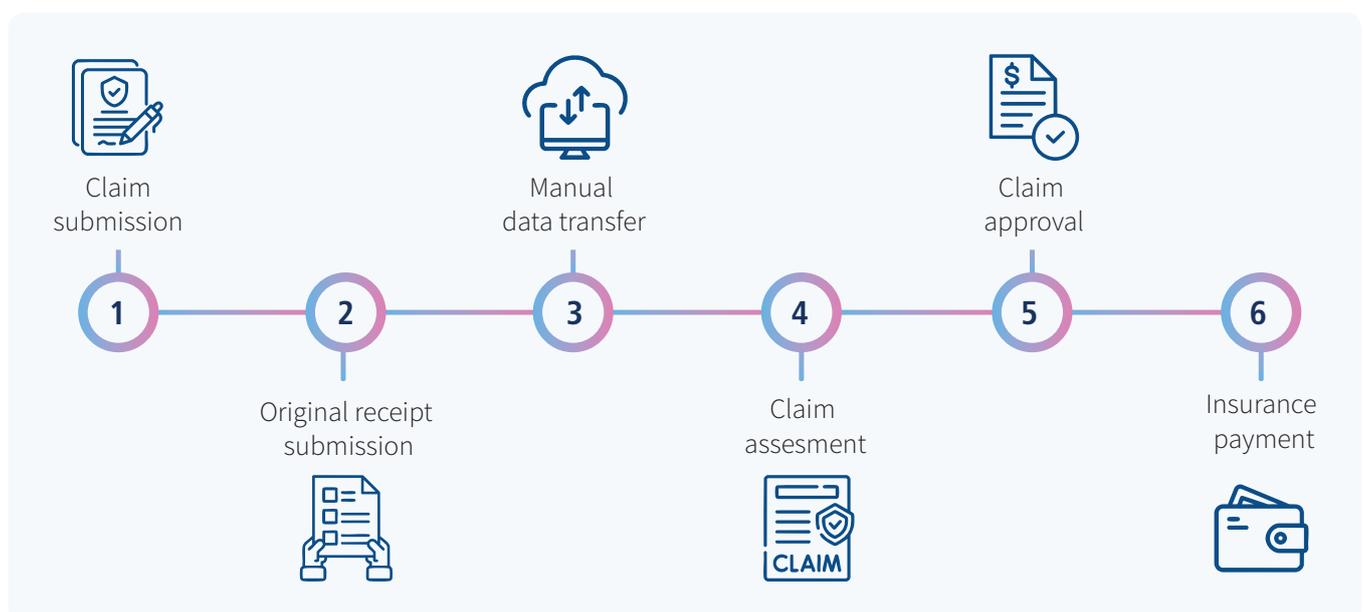
Policyholders now expect faster claims, personalized products, and seamless digital experiences. Though AI offers powerful tools to meet these demands by automating claims, enhancing underwriting, detecting fraud, and improving customer engagement, many insurers struggle to scale AI initiatives beyond pilot projects. According to McKinsey, this is often due to fragmented systems, a lack of data governance, and unclear returns on investment.[1]

The Challenge – Fragmentation and Inefficiency

To move from experimentation to creating enterprise-wide impact, insurers must rethink their approach to AI adoption. One of the most persistent barriers to adopting AI in insurance is operational fragmentation. Many insurers still run underwriting, claims, and customer service on legacy systems that don't communicate effectively. This complex architecture makes it difficult to access and integrate data, an essential ingredient for effective AI.

For example, processing a simple auto claim may require data verification across multiple systems, adding unnecessary delays. Once a customer files a claim with all relevant details, including photos of damages, repair receipts, and so forth, the insurance agent acts upon this information and evaluates the legitimacy of the claim by reviewing all supporting documentation and determining the extent of the damage. In some cases, it is even required for the insurance company to conduct its own inspection to review and provide a more precise cost estimate.

Traditional Time-Consuming Claim Process

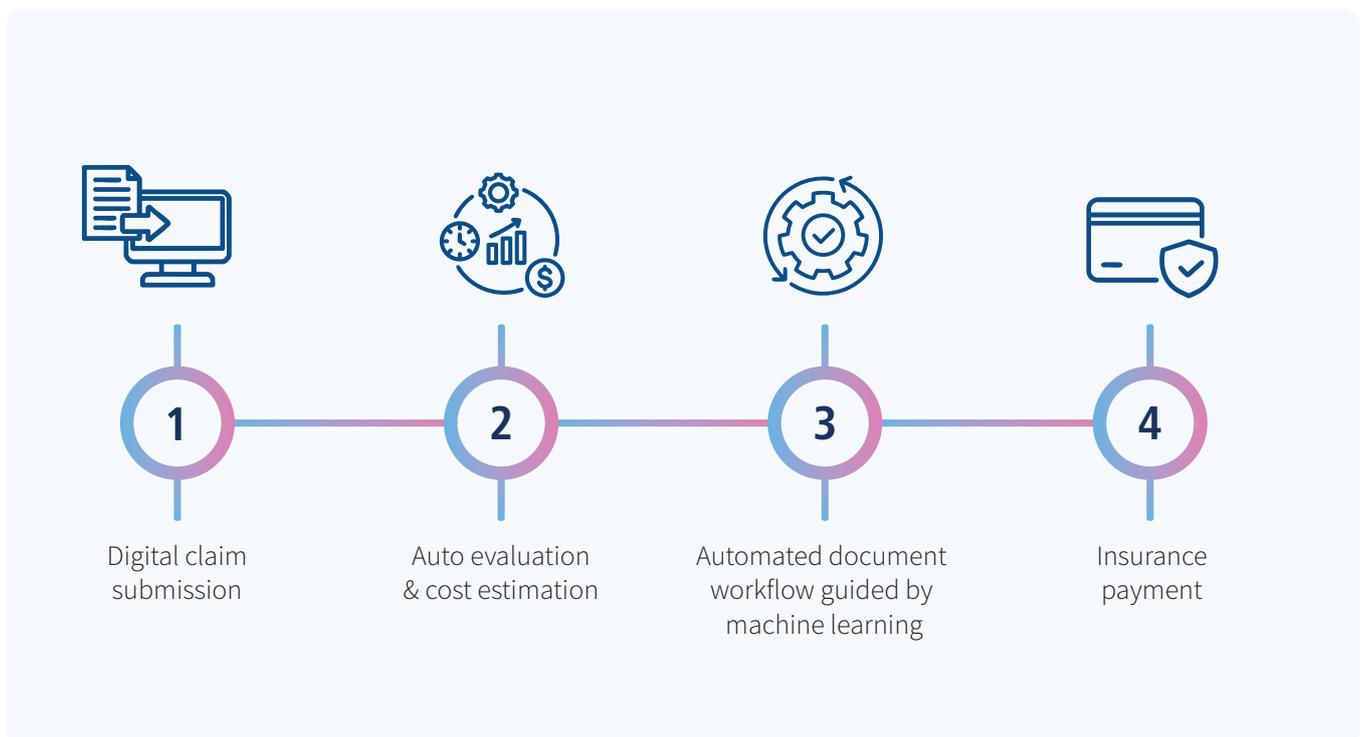| 1 Claim submission	2 Original receipt submission	3 Manual data transfer	4 Claim assesment	5 Claim approval	6 Insurance payment

From an underwriting viewpoint, many insurance companies, even those with access to real-time behavioral or telematics data but functioning on an inefficient and outdated platform, can lead to mispriced policies and missed opportunities for personalization.

## Solution

Using Human-in-the-Loop Augmented AI System

In this scenario, claim adjudicators are supported by an AI-powered system with human oversight. Using deep learning, the system automatically analyzes submitted photos to assess damage and estimate repair costs. It relies on predictive modeling and publicly available data—such as parts pricing, labor rates, and vehicle valuation trends—to generate accurate cost projections for the reported make and model.

Car Damage Recognition Solution with Machine Learning

1	2	3	4
Digital claim submission	Auto evaluation & cost estimation	Automated document workflow guided by machine learning	Insurance payment

With the assistance of agentic AI and RPA solutions, even documentation processes can be automated, resulting in workflows that are faster and more effective. The claims is eventually resolved much more quickly, increasing consumer loyalty.

This paper further explores a practical framework of these AI solutions based on three pillars: partnering with InsurTechs, investing in scalable platforms, and deploying structured transformation playbooks.

| Partnering with InsurTechs | Investing in Scalable Platforms | Deploying Structured Transformation Playbooks |
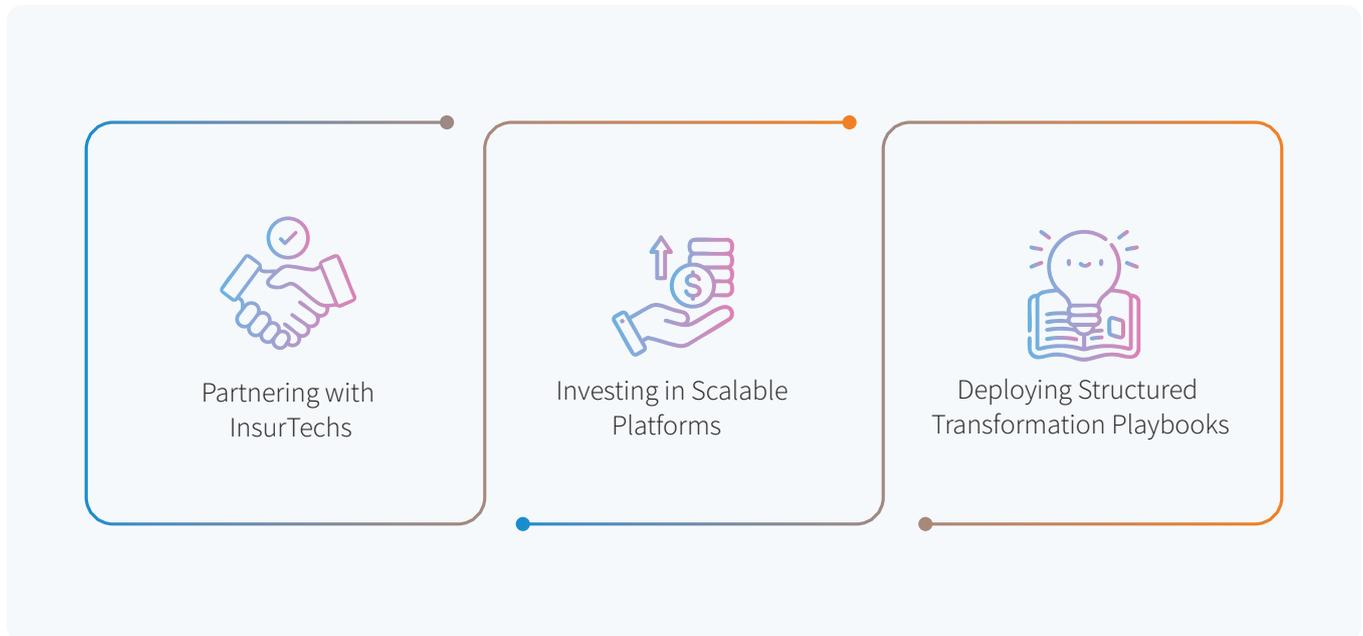
Strategic Partnerships with InsurTechs

One of the significant and fastest ways to accelerate AI adoption is through partnerships with InsurTechs. InsurTech, short for 'insurance technology,' refers to the use of innovative technologies, such as artificial intelligence, big data analytics, blockchain, and machine learning, to improve and automate the traditional insurance industry.

InsurTechs are a dynamic and innovative response to the evolving needs of an increasingly tech-savvy and data-driven world. These firms play a pivotal role in reshaping the landscape, fostering greater efficiency, transparency, and accessibility within the industry, benefiting both insurance providers and customers. They help with automating processes, improving risk assessment accuracy, and offering tailored coverage. InsurTechs disrupt the conventional insurance model to meet evolving consumer demands and expectations.[16]

The following table provides insights into different use cases across the industry landscape for InsurTech adoption.

High-Impact AI Use Cases Can Be Adapted and Deployed in Various Domains Across Insurance

Gen AI Use Cases in Insurance

- Machine learning
- Natural language processing
- Optical character recognition
- Cognitive agents
- Robotic process automation

	Sales and distribution	Pricing and underwriting	Claims management	Policy servicing
Revenue generation	Agent copilot Hyper-personalized customer outreach Product research Customer 360 profile Personalized marketing campaigns Service provider contract analyzer	Broker-facing chatbot Auto-generated quotes Real-time pricing analysis		Policy pricing recommendations
Productivity and efficiency improvement	Request-for-proposal streamlining Automated call assessment Agent recruitment chatbot Personalized agent training Automated prefilled forms	Automated web search Auto-generated risk report Automated prefilled forms Automated customer enrollment	Auto-generated "first-notice-of-loss" insights Claims prioritization engine Postcall synthesis Auto-generated documentation Claims review copilot Dynamic information collection	Chatbot interactive voice response Conversational AI Automatic document verification
Cost and risk reduction		Underwriting decision agent Market and sentiment analysis Customer risk assessment Fraud detection Risk segmentation Real-time assessment of sudden news impact Policy risk expert	Customer behavior adviser Liability determination Fraud prediction Litigation reduction Reinsurance recovery assessment Prior authorization optimization Complaint prediction Network optimization	Natural language processing policy review

Claims processing automation: Lemonade, an InsurTech startup, uses AI to process claims quickly and efficiently, often within minutes.[17]

▶ Blockchain-based reinsurance: Insurers like Swiss Re have explored blockchain to streamline and enhance reinsurance processes, improving transparency and reducing fraud risk.[17]

▶ On-demand insurance: Small business insurance companies like Trov and Slice offer on-demand coverage that policyholders can activate or deactivate as needed, aligning with their changing lifestyles and needs.[17]

▶ The Hartford partnered with Tractable to use AI-powered image recognition for auto damage assessment. This reduced claims processing time from days to minutes.[1] Similarly, Loadsure uses Google Cloud's Document AI to automate document extraction and triage, improving speed and reducing human error.[2]

▶ These partnerships allow insurers to test AI in specific business functions without committing to large-scale internal development. They also provide a low-risk way to explore emerging technologies while ensuring compliance with data privacy regulations like General Data Protection Regulation and Personal Information Protection and Electronic Documents Act.[3]

▶ Building an in-house AI system that is potentially more customizable and cost-effective in the long run presents significant challenges. It requires substantial investment in infrastructure, talent, and governance. Recruiting and retaining AI specialists, such as data scientists, machine learning engineers, and compliance experts, is both competitive and expensive. Moreover, insurers must overcome hurdles like poor data quality, siloed systems, regulatory complexity, and the need for continuous model monitoring and retraining.[4]

▶ According to industry research, even selecting the right use case and integrating AI into legacy systems can be a project in itself. Insurers must also build safeguards for data privacy, bias mitigation, and explainability—each of which demands specialized tools and ongoing oversight.[4]

▶ Given these complexities, many insurers choose to partner with InsurTechs that offer pre-trained, insurance-specific AI solutions. These vendors often provide built-in compliance features, faster time-to-value, and lower risk, making them an ideal starting point. Over time, as internal capabilities mature, insurers may choose to bring more AI development in-house for strategic differentiation.

Scalable AI-Enabled Platforms

Even the most advanced AI models will fail to deliver value without a robust platform foundation. Scalable, cloud-based platforms are essential for integrating data across policy administration, claims, underwriting, and customer service. These platforms enable real-time data sharing, support high-volume processing, and provide the flexibility to deploy AI models across multiple use cases. In underwriting, this allows for the use of telematics from connected vehicles or wearable devices to create individualized risk profiles. In claims, AI can automate image-based estimation, fraud detection, and payment processing.[1,2]

According to BCG, insurers that invest in scalable AI platforms have achieved up to 50% faster claims resolution and 20% reductions in operational costs.[3] These platforms also support future growth, especially as IoT adoption expands in property and auto insurance.

Several insurers have already adopted such platforms with measurable success:

Guidewire Cloud Platform	▶	Texas Windstorm Insurance Association migrated to Guidewire Cloud to modernize its core systems and enable faster, more flexible claims processing.[4]
Salesforce Financial Services Cloud + Einstein AI	▶	Zurich North America uses Salesforce to unify underwriting, claims, and risk engineering, improving operational efficiency and customer experience.[3]
Microsoft Azure AI	▶	While specific insurance examples are limited, Azure AI is widely used across financial services for scalable AI deployment, offering robust compliance, data security, and integration capabilities.[5]
Google Cloud AI + Document AI	▶	Loadsure leverages Google Cloud's Document AI to automate claims document extraction and triage, significantly reducing manual effort and improving turnaround time.[6]
All Digital Specialty Insurance Platform	▶	This cloud-native platform enables bindable quotes in minutes using machine learning and human-in-the-loop processes, demonstrating how AI can scale underwriting for small commercial insurance.[7]

Importantly, scalable platforms also provide the infrastructure needed for responsible AI governance. They enable model monitoring, version control, and audit trails, critical for compliance and risk management. This is especially important as regulators increasingly demand transparency, fairness, and explainability in AI systems.

Advancements in AI are Creating New Imperatives for AI Enablement in Insurance

◯ Areas of change

	AI-native insurer of the future				
Reimagined engagement	Boosting profit margins		Engaging customers with hyper-personalized outreach		
	Empower employees and insurance agents to become more productive and better serve customers		Implement enhanced decision-making and analytics for underwriting and claims		
	Multimodal conversational experiences (text, visual, voice)	Omnichannel experiences for customers, employees, and partners	Intelligent products, tools, and solutions	Smart services and operations	Redefined partnerships and ecosystems

AI-powered decision-making

AI orchestration layer (Includes copilots and autopilots that orchestrate workflows)

Agentic AI mesh architecture · Product research · Policy risk expert · Hyper-personalized mapping · Customer 360 profile · Voice-based chatbot · AI-based pricing · Underwriting assistant · Draft policy generator · Claims prioritizing engine · Fraud detector · Prior authorization engine · Claims adjudication · Agent copilot

Predictive analytics models	Customer acquisition	Retention, cross-and upselling	Underwriting	Claims	Fraud prediction	Network optimization

AI enablers:	Integrated, reusable components, and patterns		Information security standards and controls		Streamlined, reusable risk protocols	

Infrastructure

Technology and infrastructure	Omnichannel orchestration	Modular decentralized architecture	Modern core	Marketing technology and personalization	Intelligent infrastructure

Industrial AI and machine learning	AI model life cycle and machine learning operations	Real-time and edge AI processing	Multimodal AI and generative models	Autonomous agents and decision-making systems	AI-augmented cybersecurity and risk mitigation

Data platform

Enterprise data	Unified data architecture	Data governance and security	Real-time and event-driven data processing	AI-ready data management and feature engineering	External data integration	AI-powered data quality and observability

Transformation Playbooks for Governance and Execution

Technology alone is not enough. Many AI initiatives stall because insurers lack a clear roadmap for implementation. Transformation playbooks provide the structure needed to move from strategy to execution.

A well-designed playbook typically includes

Business alignment

Ensuring AI projects are tied to measurable outcomes, such as reducing claim cycle times or improving underwriting accuracy.

Data governance

Establishing standards for data quality, privacy, and compliance with regulations like NAIC's AI Model Bulletin and OSFI's Model Risk Management guidelines.[9],[10]

Change management

Training employees to use AI tools effectively, building trust in AI-driven decisions, and fostering a culture of innovation.

Monitoring and feedback loops

Continuously tracking model performance, detecting bias or drift, and adjusting strategies based on real-world results.[11]

These playbooks help insurers avoid common pitfalls, such as over-reliance on vendors, lack of internal expertise, or failure to scale beyond pilots. They also ensure that AI adoption is sustainable, ethical, and aligned with long-term business goals.
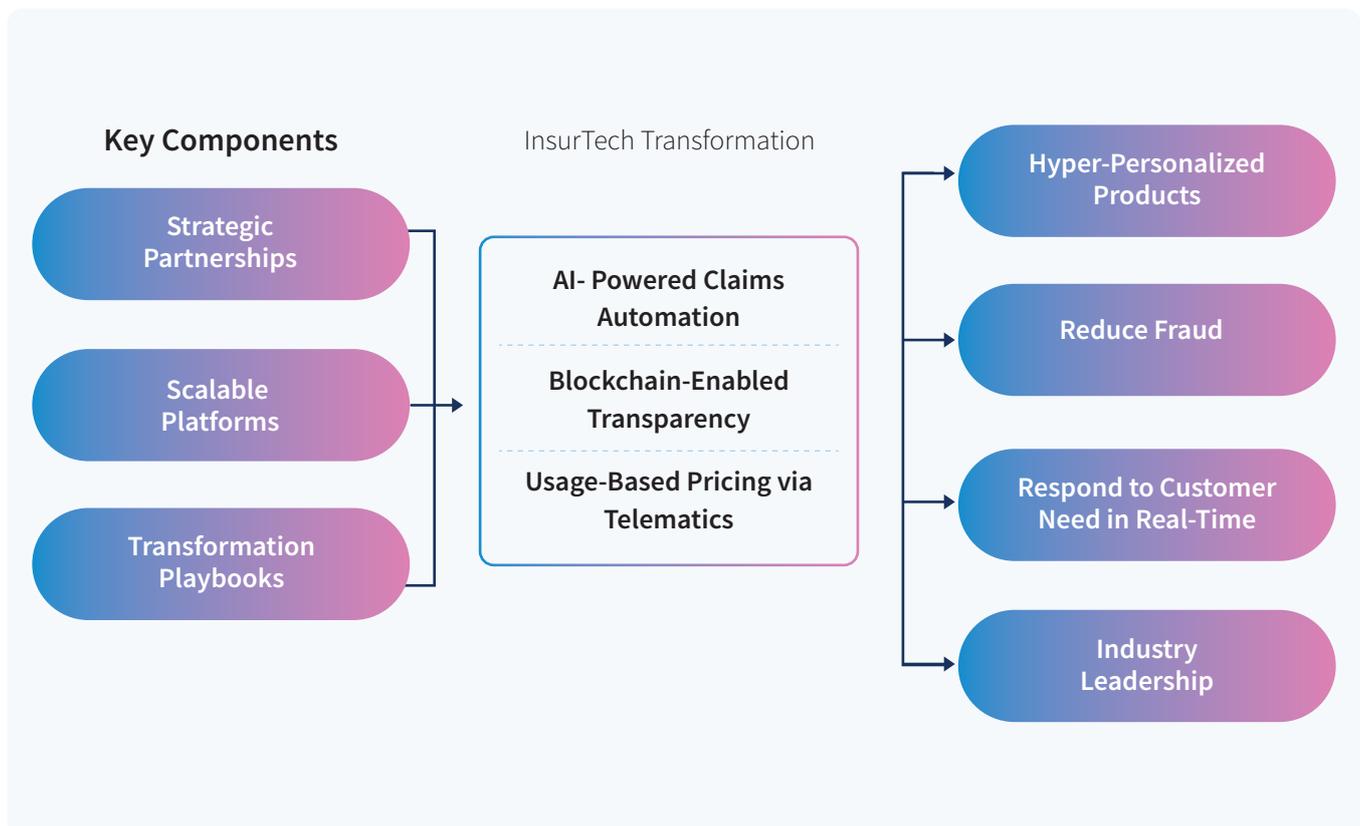
Balancing Innovation with Risk

While AI offers significant opportunities, it also introduces new risks. Poorly designed models can lead to biased decisions, discriminatory pricing, or compliance violations. Over-automation without human oversight can result in reputational damage or regulatory penalties.

Regulators are increasingly focused on these issues. The European Insurance and Occupational Pensions Authority, for example, has issued guidelines requiring insurers to demonstrate fairness, transparency, and explainability in AI systems.[12,13] The Geneva Association emphasizes the importance of embedding ethical principles into AI development, including bias testing, transparent documentation, and human-in-the-loop review.[11] Recent research also highlights the gap between AI's theoretical potential and its real-world implementation in insurance, especially around data quality and model governance.[14]

As AI agents become more autonomous and embedded in operational workflows, the role of human oversight is evolving. Much like project managers in software development are transitioning into AI orchestrators,[15] insurance leaders must also adapt, shifting from traditional supervision to guiding intelligent systems with strategic, ethical, and business-aligned oversight.

Navigating the AI Ecosystem in Insurance

Key Components

- Strategic Partnerships
- Scalable Platforms
- Transformation Playbooks

InsurTech Transformation

- AI- Powered Claims Automation
- Blockchain-Enabled Transparency
- Usage-Based Pricing via Telematics

- Hyper-Personalized Products
- Reduce Fraud
- Respond to Customer Need in Real-Time
- Industry Leadership

Conclusion

Navigating the AI ecosystem in insurance requires a strategic, structured, and risk-aware approach, rather than just adopting new technologies. By focusing on strategic partnerships, scalable platforms, and transformation playbooks, insurers can unlock the full potential of AI, delivering faster claims, more accurate underwriting, and better customer experiences.

However, this transformation is not merely technological—it represents a fundamental shift in how insurance is conceived and delivered. As highlighted by Darkhorse Insurance[18], InsurTechs are rapidly replacing legacy, paper-driven workflows with digital-first, customer-centric models. Innovations such as AI-powered claims automation, blockchain-enabled transparency, and usage-based pricing via telematics are redefining the value proposition of insurance itself. These tools empower insurers to offer hyper-personalized products, reduce fraud, and respond to customer needs in real time.

The rise of InsurTechs underscores the urgency for traditional insurers to evolve. Those who embrace this shift with a clear strategy and robust governance will remain competitive and shape the future of the industry. In a landscape increasingly driven by data, agility, and trust, mastering the balance between innovation and oversight is the key to long-term leadership.

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15

The Age of Applied AI: AI-Driven Code Configuration in P&C Insurance COTS Platforms
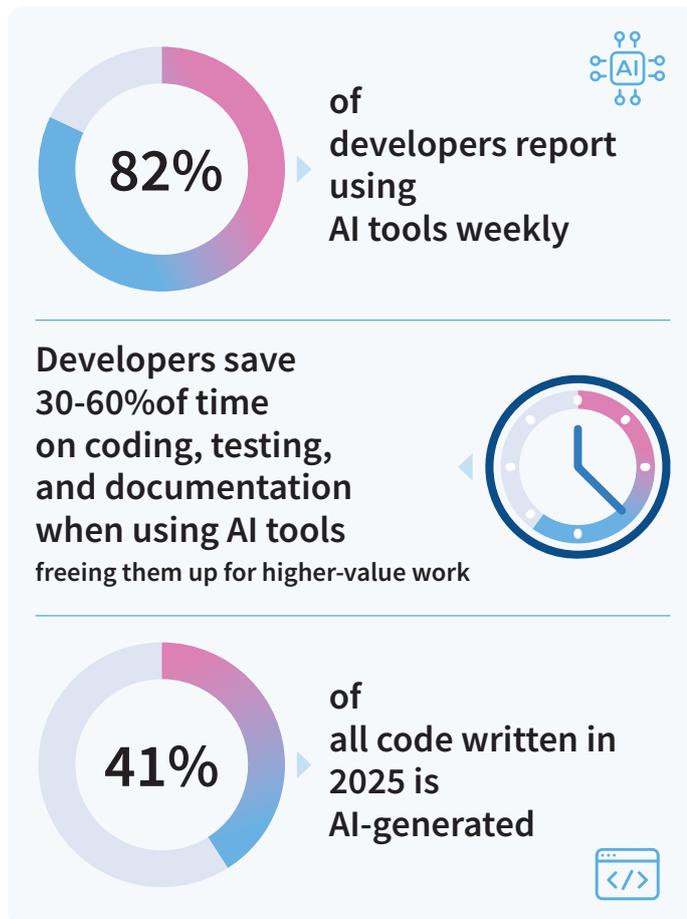
Authors

▸ Anirban Ganguly
▸ Avipsa Dash

Abstract

With the rapidly evolving capabilities of artificial intelligence (AI) in automated code generation, Commercial Off-The-Shelf (COTS) platforms are also beginning to adapt and transform to deliver more value for insurers. This paper explores the emergence of applied AI as a transformative force in automating and optimizing tasks even for niche domain-centric COTS platforms, which is traditionally performed by specialized and skilled human developers. By leveraging insurance domain knowledge, taxonomy and schematic knowledge of COTS platform-specific languages, and formats blended with machine learning algorithms and natural language processing, AI-driven systems can interpret business requirements, generate configuration code, and validate outputs with minimal human intervention, even for COTS platforms. The implications of this shift are profound, offering increased efficiency, reduced errors, lesser dependency on niche technology and domain knowledge, and faster time-to-market for insurance products. Furthermore, the paper discusses the challenges of implementing AI for COTS platforms, and the future potential of AI in enabling adaptive and intelligent insurance platforms. Through case studies and industry insights, readers will gain a comprehensive understanding of how applied AI is reshaping the P&C insurance sector and what it means for the future of enterprise software configuration.

01
Introduction

Keeping pace with the AI revolution, the insurance industry understands the importance of leveraging AI-driven capabilities across different use cases including automation in code configuration and software development.

82% of developers report using AI tools weekly

Developers save 30-60% of time on coding, testing, and documentation when using AI tools freeing them up for higher-value work

41% of all code written in 2025 is AI-generated

There has been considerable progress in the field of AI-powered code generation. Multiple AI solutions are readily available for automatic code generation and providing copilot assistance for traditional programming languages like Java, Python, etc.

Until Q1 2025, a staggering 41% of all codes written globally were AI-generated as per reports from GitHub and Stack Overflow.

When it comes to leveraging AI to generate code for a COTS platform catering to a niche domain in insurance, there has been an obvious cloud of skepticism and uncertainty. At the same time, insurers have started investing in Gen AI to solve many other problems for the underwriter and customer communities.

99% of insurers are either investing in Gen AI, planning to invest, or are highly interested in exploring its potential across diverse use cases.

Out of that, **70%** of insurers are allocating at least **USD 5 million** to Gen AI initiatives.

Out of the remaining **30%,** most insurers plan to set up a dedicated Gen AI team before end of 2025.

With the exponential increase in strategic focus by insurers and the proportional boost in applicability and usage of Large Language Models (LLMs) and their ability to delve into complex subject areas, the landscape is beginning to shift.

The dream of automated configuration and coding for domain-centric technology platforms is no longer a distant vision—it is gradually becoming a tangible reality. This article sheds light on the early strides being made to harness AI technologies in accelerating and automating code configuration within insurance COTS platforms, paving the way for a future where intelligent systems can assist not just in generic development tasks, but in highly specialized, domain-driven implementations.

02
Challenges and Considerations

Insurance COTS Platform-specific Knowledge

Collective Domain and COTS Platform Knowledge Fabric
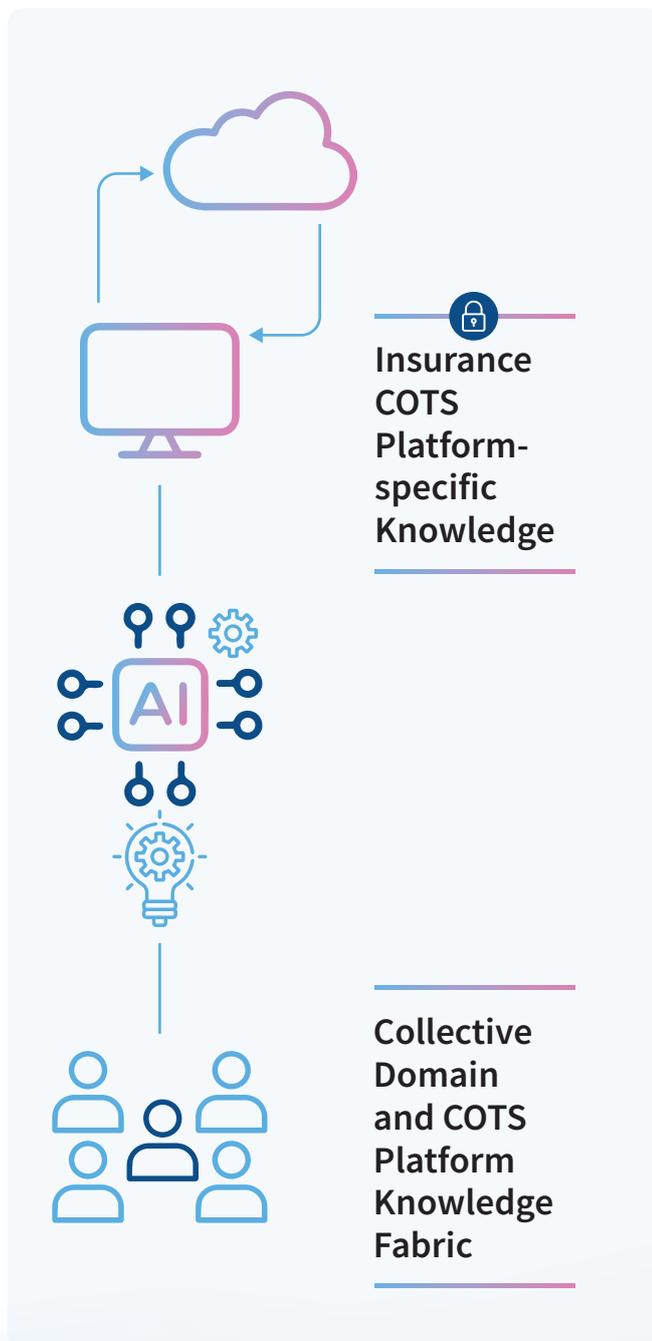
The key challenge lies in the availability of domain and platform-centric data needed to form the knowledge bases of LLMs. Insurance COTS platforms like Duck Creek, Guidewire, Majesco etc. are not open-source platforms, and their knowledge resources are mostly subscription-based and not available on the public domain. LLMs typically feed on knowledge available on the internet to grow its capabilities. Thus, information unavailability on these niche technologies and domain specific details on public domain poses a challenge to train and fine-tune LLMs. However, with the collective knowledge of insurance carriers, service/implementation partners, and the COTS technology companies, AI-powered solutions have started to evolve.

Another challenge is that AI code generators come with both promises and potential pitfalls that demand careful consideration from tech executives and developers alike. Software developers and configurators need to play the crucial Human-In-Loop (HIL) role to ensure that the code aligns with project requirements, is dependable, maintainable, and does not introduce security vulnerabilities.

03
Why this Matters

The ability to automate configuration in insurance COTS platforms could be a game-changer. It means:

Faster Time-to-Market for New Products

▶ AI integration in Guidewire platforms has reduced product launch timelines by up to **40%**, enabling insurers to introduce new offerings in weeks instead of months.

▶ Majesco's AI-enabled workflows allow insurers to configure and deploy new products **30–50%** faster than traditional methods.

Reduced Dependency on Specialized Platform Developers

▶ AI-powered configuration tools in Guidewire have reduced manual coding effort by **35–45%**, allowing business users to manage configurations with minimal technical support.

▶ Majesco's low-code AI tools enable non-technical users to manage up to **60%** of configuration tasks, significantly lowering reliance on niche developers.

Improved Consistency and Compliance Across Implementations

▶ AI-driven compliance modules in COTS platforms have improved regulatory adherence by up to **50%**, reducing audit failures and manual review cycles.

Enhanced Scalability for Insurers Expanding into New Markets

▶ Insurers using scalable AI stacks in COTS platforms have reported **20–30%** lower infrastructure costs and **50%** faster onboarding in new markets.
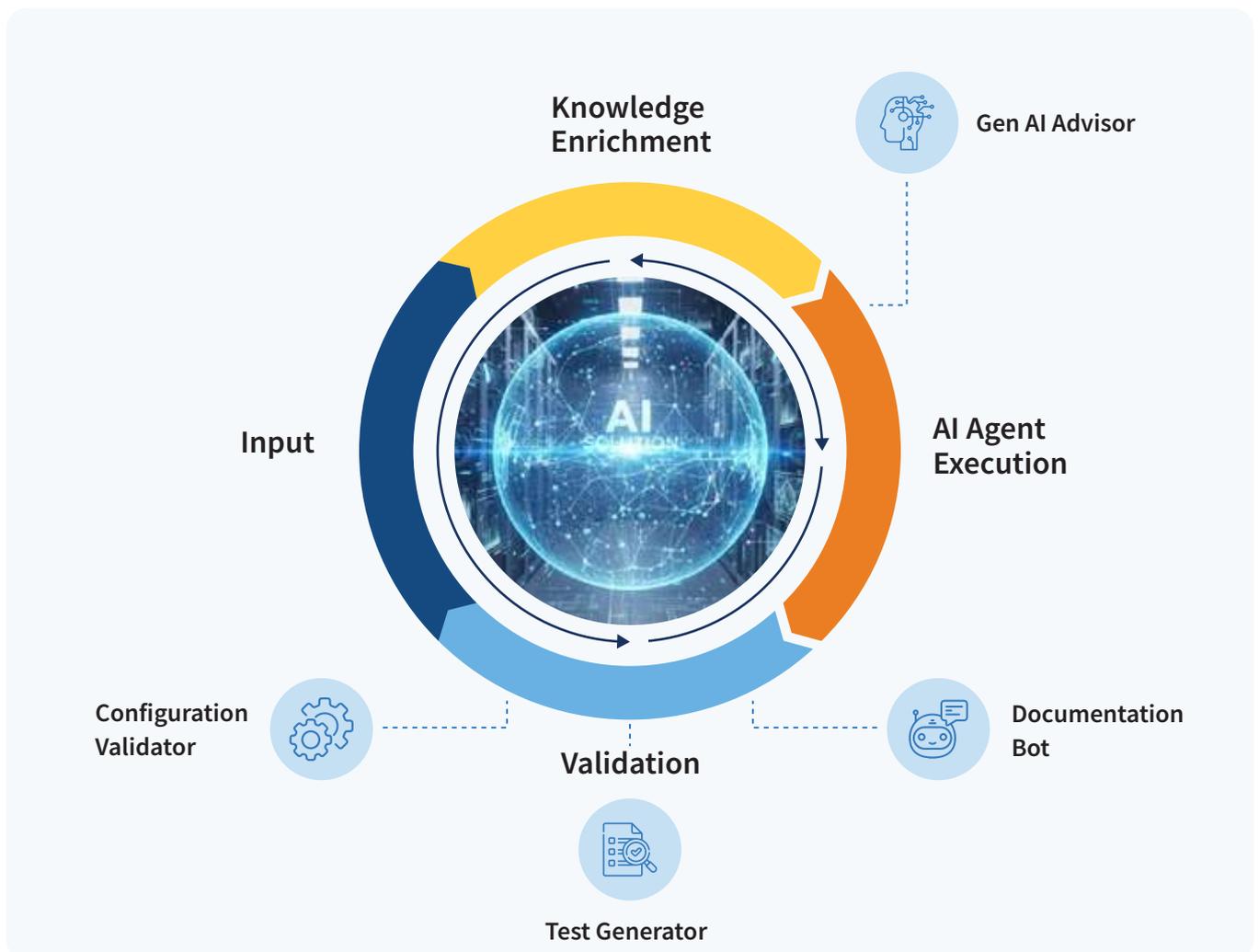
04
Solution Approach

The first step lies in envisioning the various features and functionalities of the solution split across multiple agentic tools for various operations. This includes content extraction from user stories / requirement documents, and identifying the intent and performing specific and granular operations for building code / configuration scripts.

The next step could be to build micro knowledge fabrics for each agentic tool, enriched with domain and COTS platform-specific nuances. This is then followed by context integration and the orchestration of collaborative AI agents using platforms like Crew AI.

The last step could be to integrate AI assistants into development environments to provide real-time suggestions, validations, and documentation support. Enable AI to assist with version control, rollback strategies, and impact analysis.

Key strategic benefits include

Knowledge Enrichment

Gen AI Advisor

Input

AI Agent Execution

Configuration Validator

Validation

Documentation Bot

Test Generator

05
Future Vision

The future of AI in P&C insurance lies in creating intelligent platforms that leverage the gold mine of domain information, technology knowledge, and a scalable architectural vision to build solutions that can learn and adapt over time. This will enable insurers to offer personalized products and respond swiftly to market changes.

In addition to automated software development and configuration, there is an immense potential in building AI-based agentic solutions that can extract information from complex requirement documents, insurance filing records and generating user stories, test cases/ data, increasing the productivity and efficiency of the Business Analysts community.

By 2030, most COTS product companies would either partner with AI startups and service providers or build their own team to enhance their suite of products.

Market Insights for COTS Platforms

AI in the insurance market is projected to grow from **USD 8.13 billion in 2024** to **USD 141.44 billion by 2034**, with a CAGR of **33.06%**

Platform modernization using COTS solutions can reduce IT costs per policy by up to **41%** and overall IT spending by **20–30%**

Less than 30% of COTS implementations succeed without best practices, highlighting the need for structured AI integration.

Projected Growth of AI Insurance COTS Product Implementation (2022- 2023)

Market Size (Billion USD) vs YEAR — line chart with data points at 2022, 2024, 2026, 2028, 2030, 2032.

06
Conclusion

Applied AI has started transforming the way P&C insurers rollout their business products, manage value streams and optimize the effective use of resources. Automated coding, configuration, and deployment through COTS platforms will soon be a reality, enabling insurance carriers to achieve greater agility, efficiency, and innovation.

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Anirban Ganguly is a seasoned technology leader and enterprise architect with around two decades of experience, apart from being a specialist in P&C Insurance and COTS platforms like Duck Creek. Anirban has extensive experience in architecting enterprise software solutions and driving digital transformation and core modernization projects. He specializes in leveraging AI and machine learning to drive innovation in the insurance sector. Anirban holds a degree in Computer Science Engineering and has led multiple initiatives focused on modernizing legacy systems through intelligent automation for global insurance customers.

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Avipsa Dash is a seasoned technical architect and technology leader with deep expertise in P&C Insurance and COTS platforms, particularly Duck Creek. With over two decades of experience, Avipsa has led large-scale transformation programs, focusing on core modernization, data migration, and platform integration for global insurance clients. She brings a strong architectural vision and hands-on experience in designing scalable, cloud-native solutions that align with business growth strategies. Avipsa is passionate about applying AI and automation to streamline insurance operations and accelerate digital maturity.

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Transforming Insurance with Predictive Weather Analytics and Proactive Policyholder Protection

Author ▶ Rajarshi Goon

Executive Summary

For property insurers, the unpredictability of natural catastrophes is no longer an occasional threat; it is a defining business risk that demands strategic foresight. As weather patterns become increasingly volatile, insurers face rising claim costs, strained reserves, and heightened customer expectations for actionable guidance that goes beyond compensation. Traditional reactive approaches to risk management are no longer sufficient.

This paper argues that predictive weather analytics, integrated with proactive policyholder protection, represent the next frontier in insurance transformation. By leveraging real-time meteorological data, historical claims, geo-hazard information, and property condition insights, insurers can anticipate risk exposure, prioritize high-vulnerability assets, and provide tailored recommendations to policyholders. The outcome is a shift from reactive claims handling to strategic risk mitigation, strengthening both financial resilience and customer trust.

The strategic benefits of predictive models include

Enhanced Risk Forecasting

Predictive models translate weather and property data into actionable risk scores, enabling more precise claims forecasting and optimized reserve allocation.

Proactive Policyholder Engagement

Personalized notifications, guidance, and preventive recommendations empower customers to reduce exposure and mitigate potential losses.

Operational Efficiency

Intelligent dashboards equip underwriters and customer service representatives (CSRs) to prioritize high-risk cases, accelerate decision-making, and reduce operational friction.

Precision Underwriting and Claims Management

Advanced probabilistic modeling improves risk classification, pricing accuracy, and loss ratio management, while strengthening claim handling efficiency.

Predictive weather analytics becomes a strategic enabler, shifting insurers from reactive claims handlers to proactive risk partners. Organizations that embrace this approach can redefine industry standards, enhance customer loyalty, and build resilient operational models capable of navigating escalating natural hazards.

Introduction
The Rising Tide of Risk

Insurance has traditionally been a reactive business: policies are sold, claims are filed, and losses are reimbursed. Yet, in today's world of escalating natural disasters, such reactive approaches leave both carriers and policyholders exposed. The increasing frequency and intensity of events, from wildfires and floods to earthquakes and severe storms, demand that insurers rethink how they assess, manage, and communicate risk.

Climate volatility has become a defining factor for property insurers. In 2025 alone, the industry has faced an extraordinary wave of natural catastrophes. Devastating events such as the Los Angeles wildfires and the 7.7-magnitude earthquake in Myanmar have resulted in billions of dollars in economic losses, while severe convective storms across the U.S. added tens of billions more in insured losses. Collectively, these events illustrate the scale and unpredictability of today's climate-related risks, underscoring the limitations of traditional, reactive insurance models.

Insured Losses From Major Natural Catastrophes In 2025
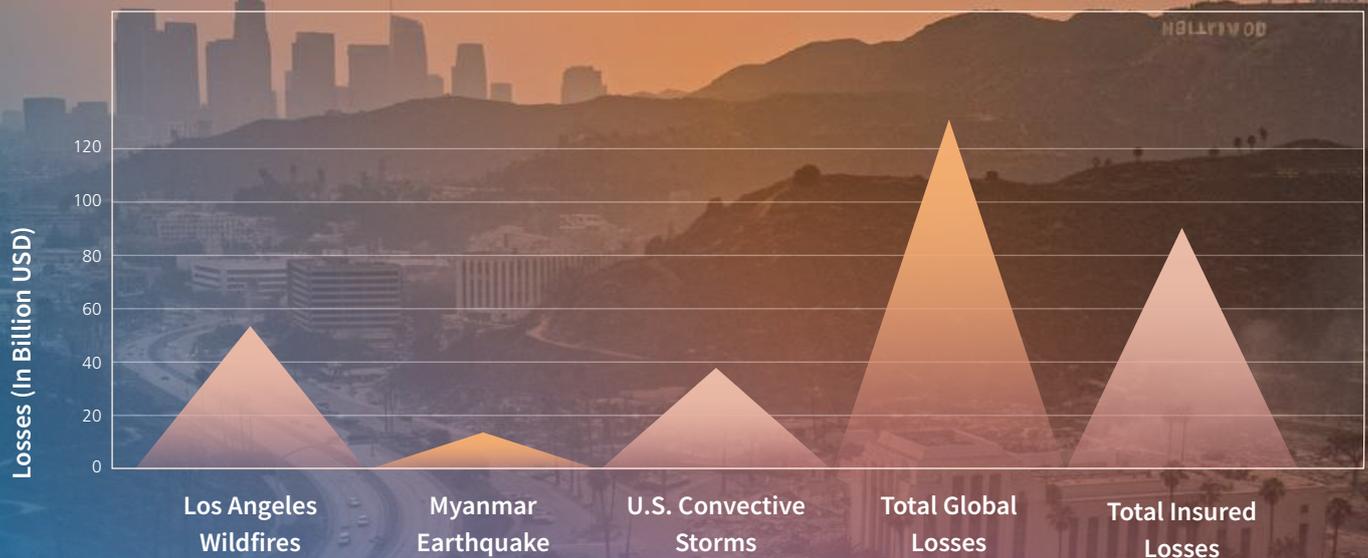
A recent study by Swiss Re, the world's largest reinsurer, predicts that property losses from natural disasters driven by climate change could rise by over 60% by 2040. This surge is expected to push homeowner policy premiums up by 5.3% annually, placing significant strain on national and regional insurers who must absorb increasingly large claim payouts.[1]

Impact for Carriers and Insureds

For carriers, these realities translate into mounting challenges: high claim costs, pressure on reserves, and the constant need to balance financial stability with timely policyholder support. For policyholders, exposure often means severe financial and emotional distress, exacerbated by delayed interventions and limited preventive guidance. The industry is witnessing a clear inflection point: reactive risk management alone is insufficient to protect assets, livelihoods, or long-term trust.

This context sets the stage for a strategic shift toward predictive, intelligence-driven approaches that enable proactive risk mitigation. By leveraging advanced analytics, real-time data, and property-specific insights, insurers can anticipate potential losses, guide policyholders toward preventive measures, and transform insurance from a reactive safety net into a proactive shield against climate volatility.

Strategic Recommendations for Proactive Risk Management

To effectively respond to escalating natural disasters and climate-related risks, insurers must adopt a proactive, data-driven strategy. The focus is on two critical areas—risk prevention and intelligent intake processes. Together, they help carriers anticipate potential threats, improve underwriting accuracy, and protect policyholders while optimizing operational performance.

Proactive Loss Prevention Using AI

In an era of increasingly unpredictable weather patterns, insurers must move from reactive claim management to proactive risk prevention, safeguarding both policyholders and carriers. Advanced AI-driven analytics enables timely interventions, transforming the insurance model into one that anticipates and mitigates potential losses before they occur.

Key components of proactive risk prevention include

Real-time Risk Identification

▶ By integrating real-time weather alerts with policyholder data, insurers can quickly pinpoint individuals, properties, and locations at high risk of damage.

▶ Geo-location alerts, policy information, and historical claims data serve as critical inputs for targeting preventive measures efficiently.

Enhanced Risk Assessment

▶ AI-powered tools analyze property conditions, historical claims, and maintenance data to generate maintenance scores.

▶ Inputs from IoT sensors, surveillance feeds, and image analytics help assess vulnerability.

▶ Combining these insights with predicted calamity intensity, geo-hazard scores, and location-specific vulnerability creates a robust predictive model for damage likelihood, supporting more accurate claims reserve calibration.

Personalized Guidance for Policyholders

▶ Predictive insights allow insurers to deliver tailored recommendations, such as structural repairs, compliance with updated safety standards, or other preventive actions.

▶ This empowers policyholders to reduce exposure, foster safety preparedness, and strengthen collaborative engagement between carriers and insureds.

System Integration

▶ Predictive models can be integrated with policy administration and claims administration.

▶ Real-time data, predictive analytics, and personalized guidance collectively enhance the insurer's ability to prevent damages and optimize operational efficiency.

Intake Process Advantage:
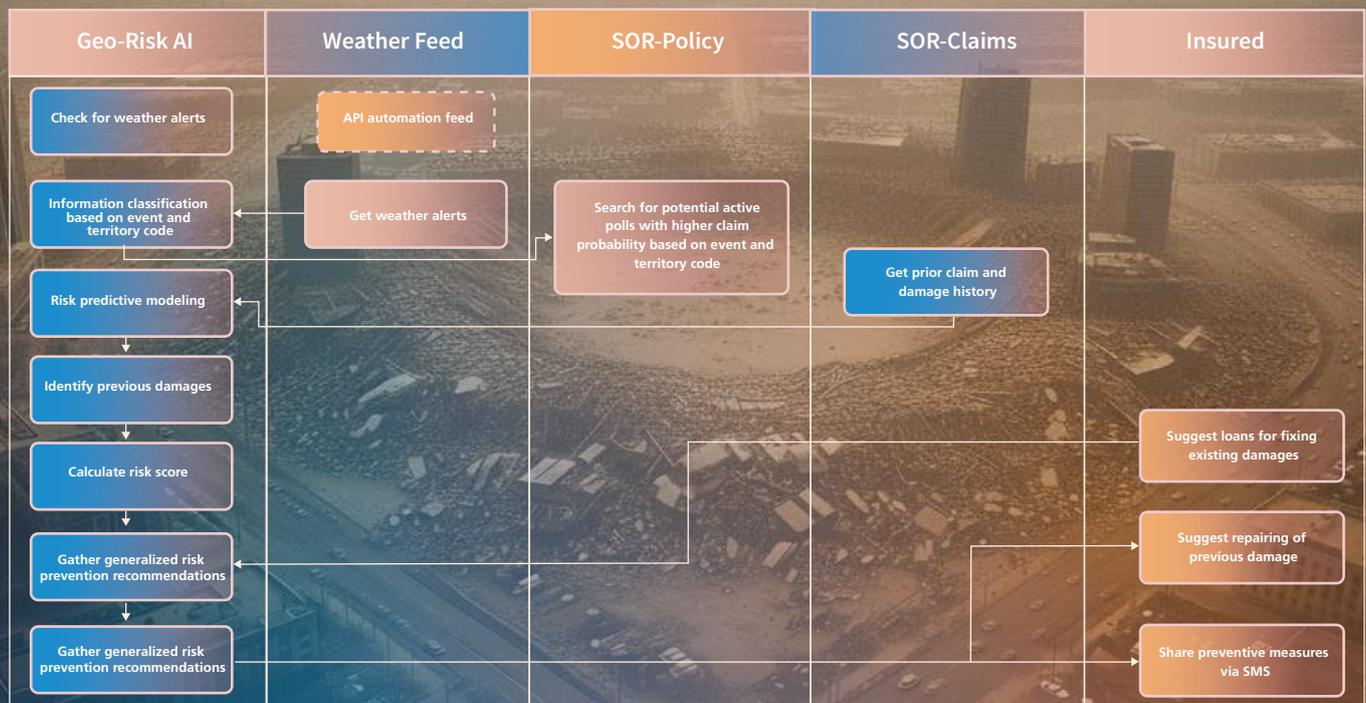# The Foundation of Proactive Insurance

Given the frequent occurrence of natural catastrophes, the submission intake process is no longer a mere data entry step; rather it is a strategic lever for proactive risk assessment.

Capturing structured and unstructured data from multiple sources—including geo-location, historical hazards, property conditions, and past claims—enables the profiling of risk vulnerabilities.

AI-powered image analytics allow underwriters and customer service representatives (CSRs) to prioritize high-risk submissions, enabling smarter decision-making from the very start.

Modernized intake systems shift insurance from reactive to predictive, laying the groundwork for smarter underwriting and proactive risk mitigation.

Solution Workflow

Geo-Risk AI	Weather Feed	SOR-Policy	SOR-Claims	Insured
Check for weather alerts	API automation feed			
Information classification based on event and territory code	Get weather alerts	Search for potential active polls with higher claim probability based on event and territory code	Get prior claim and damage history	
Risk predictive modeling				
Identify previous damages				Suggest loans for fixing existing damages
Calculate risk score				Suggest repairing of previous damage
Gather generalized risk prevention recommendations				Share preventive measures via SMS
Gather generalized risk prevention recommendations				

Persona-Based Use Cases

Customer Service Representative (CSR)

As a CSR, at an insurance company, I need access to a comprehensive, easy-to-use dashboard. This dashboard should give me a clear view of a customer's history, past claims, the risk profile of their property, and even a maintenance score.

With this information, I can provide personalized, timely guidance, such as alerting about an upcoming natural calamity. I can also advise on necessary structural improvements to reduce damage and suggest relevant insurance products that can help mitigate potential risks.

Insured Individual

As an insured, I want my insurance carrier to keep me informed about any upcoming catastrophic natural events that may impact my properties. I need to know the steps I can take to protect my assets, minimize damage, and understand which insurance solutions are available to help me manage potential losses effectively.

Underwriter

As an underwriter, I need accurate risk assessment tools to better forecast the probable maximum loss (PML). Having access to a detailed historical profile, including past claims, property maintenance data, and location-specific information, enables me to make informed decisions about risk classification, class rating, and premium charges. This level of insight helps me set fair and competitive pricing while ensuring the portfolio remains profitable and well-balanced.

Benefits

Proactive Risk Mitigation

By identifying potential threats ahead of time, carriers can take action before a loss occurs. Timely interventions strengthen financial and operational performance.

Personalized Protection Through Tailored Recommendations

Using data-driven insights, carriers can deliver customized recommendations via SMS or app notifications. These may include safety checklists or structural improvement suggestions based on each customer's unique risk profile. This helps policyholders prevent losses and feel more secure.

Streamlined Customer Support and Underwriting

A well-designed risk dashboard empowers CSRs to have more informed, meaningful conversations with customers. This improves the overall customer experience, enhances satisfaction, and builds trust.

Efficient Claims Handling

Better risk visibility enables carriers to address claims proactively and reduce their severity. This drives down the loss ratio, improves profitability, and supports more precise rating plans for insurance products.

Precision Underwriting with Advanced PML Evaluations

Accurate PML assessments lead to better risk segmentation, optimized pricing, and more effective fund allocation. This ensures a sustainable and profitable underwriting process.

Conclusion:

The Future of Proactive Forecasting

AI-driven intelligent risk prediction is essential for carriers aiming to grow and remain resilient. By proactively predicting and mitigating potential losses, insurers can turn risk into opportunity, strengthening financial performance while building deeper trust with policyholders.

Achieving this transformation requires more than just technology; it demands alignment across the organization. When decision-makers, data scientists, underwriters, and customer service representatives work together in a connected ecosystem, every role contributes to smarter, faster, and more informed decisions. This unified approach empowers carriers to move beyond their traditional role as a reactive safety net and become a proactive shield. In short, it protects customers today while positioning the business to thrive in an increasingly complex and unpredictable world.

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    https://news.climate.columbia.edu/2022/11/03/with-climate-impacts-growing-insurance-companies-face-big-challenges/

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Rajarshi Goon is a Senior Business Analyst with 20 years of experience in the insurance domain. He specializes in driving digital transformation initiatives, using his deep industry expertise to deliver strategic insights and impactful consulting outcomes for global insurance clients.

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LTM

Architecting a Comprehensive IDP Solution Driven by Agentic AI

Authors

▶ Somdatta Chakraborty

▶ Maharaja Bhattacharya

Executive Summary

The insurance industry is at a pivotal moment. Operational costs are rising, customer expectations are increasing, and competition is fierce. Yet, many insurers remain weighed down by outdated, document-heavy processes that slow growth and limit agility. From underwriting to claims handling, vast volumes of unstructured and semi-structured documents drain valuable time, resources, and human capital.

Intelligent Document Processing (IDP) promises to address these challenges, but most current solutions fall short. They struggle with inconsistent formats, lack scalability, and fail to adapt to the complex, nuanced data of the insurance industry.

This point of view explores how agentic AI can transform this landscape by creating a comprehensive, future-ready IDP solution. Readers can expect to gain:

▶ Access to a deep understanding of the challenges insurers face in managing massive, complex document flows

▶ Insights into the limitations of today's IDP tools and why they often fail

▶ Access to a structured, agentic AI-driven framework for intelligent, end-to-end document processing

▶ Understand the key pillars for building a scalable, secure, and adaptable IDP platform

▶ A clear view of the tangible business value this approach can unlock
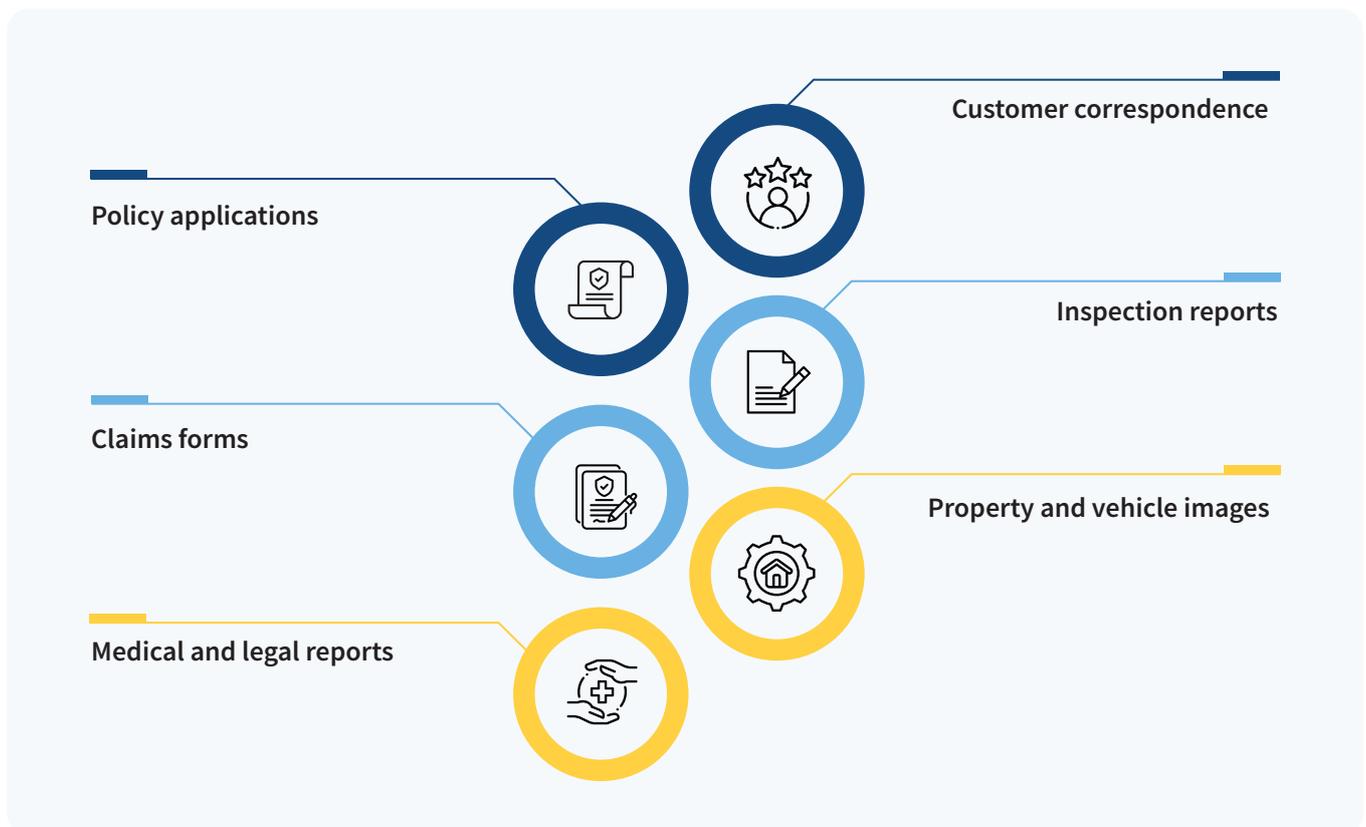
By bridging technology gaps and introducing intelligent, autonomous agents, insurers can shift from reactive operations to proactive, strategic decision-making. This sets the stage for sustainable growth, improved efficiency, and superior customer experiences—an essential transformation in today's competitive insurance landscape.

01
Introduction

The Document Dilemma in Insurance

Insurance is, by nature, a highly document-driven industry. Every process from underwriting to claims relies on a vast array of paperwork, including:

- Policy applications
- Customer correspondence
- Claims forms
- Inspection reports
- Medical and legal reports
- Property and vehicle images

These documents arrive in multiple formats such as scanned images, PDFs, emails, handwritten notes, and spreadsheets, making automation challenging.

A typical large insurer handles around 100 to 200 new submissions per line of business per day, with each submission containing five to ten attachments in addition to email content. This gives us an idea of the amount of manual effort being spent in processing new submissions, renewals, policy/ claims servicing. This highlights the tremendous amount of manual effort required in processing new submissions, renewals, policy servicing, and claims.

Back-office operations, including underwriter assistants, spend hours validating, classifying, extracting, and entering data from these documents into core systems. Even with digital transformation initiatives underway, legacy systems, regulatory requirements, and unstructured data streams keep many insurers trapped in labor-intensive, error-prone workflows.

Consider this: a medium-to-large insurer may employ 30 to 40 data entry operators per business unit just to handle submissions and associated document flows. These inefficiencies directly affect profitability, time-to-market, and customer satisfaction.
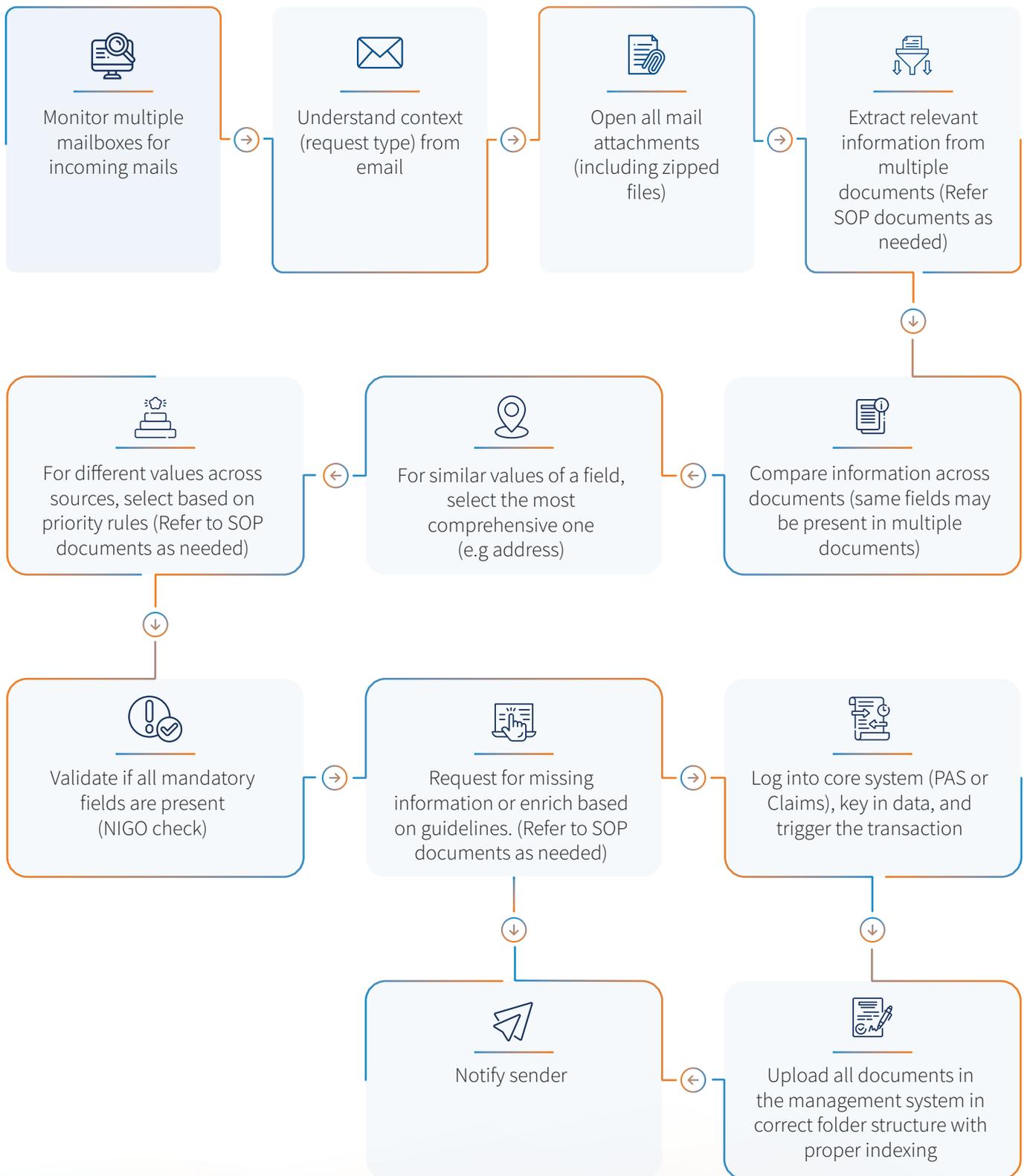
Monitor multiple mailboxes for incoming mails

Understand context (request type) from email

Open all mail attachments (including zipped files)

Extract relevant information from multiple documents (Refer SOP documents as needed)

For different values across sources, select based on priority rules (Refer to SOP documents as needed)

For similar values of a field, select the most comprehensive one (e.g address)

Compare information across documents (same fields may be present in multiple documents)

Validate if all mandatory fields are present (NIGO check)

Request for missing information or enrich based on guidelines. (Refer to SOP documents as needed)

Log into core system (PAS or Claims), key in data, and trigger the transaction

Notify sender

Upload all documents in the management system in correct folder structure with proper indexing

Fig 1: End-to-end process flow of document handling in a typical insurance business process

02
Current Challenges with IDP Solutions

To combat these inefficiencies, insurers have increasingly turned to intelligent document processing (IDP) solutions. Most rely on a combination of:

Optical Character Recognition (OCR)	Robotic Process Automation (RPA)	Natural Language Processing (NLP)	Machine Learning (ML)

While these technologies have automated parts of the document processing workflow, they fall short when faced with the complexity and scale of modern insurance operations.

Here are the most pressing issues

Limited Accuracy with Complex and Unstructured Documents

Extracting accurate data from documents with inconsistent layouts, handwritten content, tables, or images remains difficult. Errors in extraction can lead to downstream issues like inaccurate analytics and flawed underwriting decisions.

Impact — Low extraction accuracy results in reduced straight-through processing (STP) rates and poor ROI on automation investments.

Continuous Training Cost to Support New Formats

Many solutions require extensive model retraining when new document types are introduced. For example, onboarding a new broker often brings a new set of templates. Each requires training to maintain accuracy.

Impact
- This increases the maintenance cost of these solutions.
- Low accuracy of extraction leads to lower STP rates and ROI

Fragmented Point Solutions

There is no single solution capable of handling all document types.

▸ Some tools work well with structured forms, such as ACORD documents.

▸ Others cannot process unstructured formats like loss run reports in Word or Excel.

▸ Post-processing tasks such as deduplication, prioritization, and validation often remain manual.

Impact
- Insurers end up using multiple vendors for different stages.
- Increased complexity and integration overhead.
- Reliance on custom code to make extracted data usable by core systems.

Lack of Industry-Specific Customization

Most IDP solutions are not built specifically for insurance. They lack predefined taxonomies and ontologies to interpret industry-specific terms. Even within insurance, these vary significantly across domains and lines of business, such as:
- Life and annuities
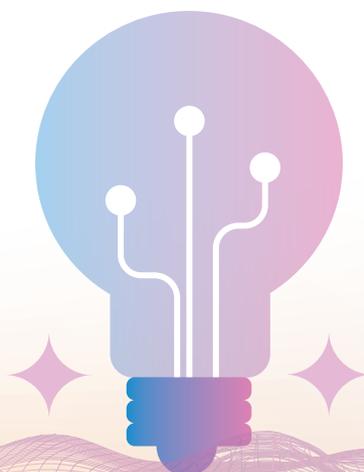- Property and casualty (P&C)
- Group benefits

Impact
Customization requires heavy investment, reducing speed-to-value and ROI.

Scalability and Cost Constraints

Scaling traditional IDP solutions across all lines of business and processes is expensive and technically demanding. Insurers are often dependent on IT teams for updates, slowing innovation.

03
Why Agentic AI is a Game-Changer

Agentic AI represents a paradigm shift. Unlike traditional AI, which performs narrow, predefined tasks, **agentic AI involves autonomous, adaptable agents that:**

| Reason independently | Collaborate seamlessly | Continuously learn and improve |

For insurers, this means automation that goes beyond repetitive tasks to handle complex, context-driven workflows with minimal human intervention. When applied to IDP, agentic AI enables insurers to:

| Simplify data extraction and processing | Improve accuracy and speed | Ensure compliance through built-in governance | Scale seamlessly as volumes grow |

04
Building a Comprehensive Agentic AI-Driven IDP Solution

To illustrate the transformative potential of agentic AI, consider a commercial P&C new submission process. **Here's how the end-to-end workflow can be reimagined.**

Step 1

Triaging Incoming Requests

Business context: The process begins when a broker emails a submission pack to the underwriter. These packs include a mix of structured, semi-structured, and unstructured documents such as ACORD forms, carrier and broker forms, statements of values (SOVs), and loss runs reports.

Proposed Solution: Classification Agent

Event-driven monitoring of incoming channels such as mailboxes or call center feeds

Gen AI-based content extraction from emails and attachments

Categorization of requests (e.g., new submission vs. renewal)

Line-of-business identification

Document-level classification for downstream processing

Step 2

Contextual Data Extraction

Business context: This step involves extracting relevant information from all documents in the submission pack while interpreting the content and context accurately. For example, in a commercial property submission request:

- Client, broker, business operations, and line-of-business (LoB) details are extracted from ACORD 125

- Location, building, and coverage details come from ACORD 140, ACORD 139, and SOV

- Past loss details are gathered from loss run reports

Proposed Solution: Classification Agent

An AI agent performs insurance taxonomy–based contextual extraction from each document

Reasoning capabilities ensure the correct taxonomy is applied based on Step 1 classifications

Step 3

Merging Information and Enrichment (Gold Copy Data Preparation)

Business context: The same entity may appear across multiple sources. For instance, a broker's name and address may exist in both the email signature and ACORD form. Similarly, location details may appear in the SOV as well as ACORD 139. This step consolidates field values across documents, applies prioritization rules, and enriches data using external sources or applications to create a single, comprehensive dataset.

Proposed Solution: Classification Agent

AI matching agent compares and consolidates values across multiple sources

Prioritization logic selects the most complete or relevant data

Missing values are enriched using LLMs, enterprise APIs, or other reference systems

Reasoning ensures field-level accuracy and completeness before finalization

Step 4

Post Processing

Business context: After data consolidation, the operations team performs a not-in-good-order (NIGO) check to identify missing critical information. Any gaps are addressed through email follow-ups or calls. Once complete, the finalized data is entered into the appropriate core system, such as Guidewire, Duck Creek, or custom solutions to trigger transactions like new quote creation. Multiple core systems may require parallel data handling across LoBs.

Proposed Solution: Classification Agent

Data validation agent flags missing fields and triggers stakeholder communication

Reasoning agent derives values using lookup tables, SOPs, or enterprise documents

RAG agent fetches derived-field information from enterprise data sources

Summarization agent compiles insights, such as multi-year loss history for downstream use

05
Pillars of a Comprehensive Agentic AI IDP Solution

For an IDP platform to deliver to deliver real business impact, it must be built on strong foundational pillars. These pillars ensure that the solution is scalable, secure, and truly tailored to the unique demands of the insurance industry.

1 Configurability

Rapid scaling across multiple lines of business demands a highly configurable solution. Business users should be empowered to define and update taxonomies, document types, and processing rules through intuitive, no-code interfaces - without heavy reliance on IT teams. This democratization accelerates implementation and time-to-value. Developers must also have the flexibility to configure agents, whether retrieval-augmented generation (RAG), extraction, or summarization with the right tools, data sources, and large language models (LLMs).

Key Capabilities

No-code/low-code taxonomy builder	Easy configuration of validation and post-processing rules	Plug-and-play integration with business systems

2 Transparency

Clear traceability and explainability are essential for trust and regulatory compliance. Every extracted field should be linked to its source with auditable changes. This fosters accountability and enhances operational insights.

Key Capabilities

Comprehensive audit trails for all document actions	Explainable AI models with confidence scores and rationale	Visual dashboards for monitoring and reporting

3 Human-in-the-Loop Support

Even the most advanced automation requires human oversight for exceptions and complex cases. A well-designed IDP platform should provide clear interfaces where users can review extracted data, verify source details, and make edits when necessary.

Key Capabilities

UI to display extracted data with source mapping	Highlighting of missing or incomplete information	Capability to edit and trigger follow-up communications

4 Ease of Integration

True end-to-end functionality depends on seamless collaboration with other enterprise applications. The solution should integrate effortlessly with core policy administration and claims systems, rule engines, document management platforms, and third-party applications.

Key Capabilities

API, file, and message queue-based integrations	Automated data transformation into compatible formats for downstream systems

5 Scalability

As insurers process millions of documents, the platform must maintain speed, accuracy, and reliability. Scalability ensures consistent performance regardless of document volume or complexity.

Key Capabilities

Cloud-native architecture with auto-scaling	Multi-tenant support for enterprise deployments	Parallel processing with load balancing

6 Security

Given the sensitive nature of insurance documents, robust data security is non-negotiable. The solution must safeguard personally identifiable information (PII) while meeting stringent regulatory standards.

Key Capabilities

Role-based access with least-privilege principles	Encryption of data at rest and in transit	Secure APIs and compliance-driven data residency controls

7 Adaptability and Learning

An agentic IDP solution should evolve continuously. By leveraging user feedback, it can improve without requiring complete retraining, ensuring long-term relevance and reduced maintenance effort.

Key Capabilities

Human-in-the-loop feedback mechanisms	Continuous improvement in agent tool discovery and taxonomy updates	Self-healing workflows with anomaly detection

8 Deployment Flexibility

Flexibility in deployment ensures alignment with enterprise technology stacks and cloud strategies. Modular design supports easier maintenance and integration of new tools or models.

Key Capabilities

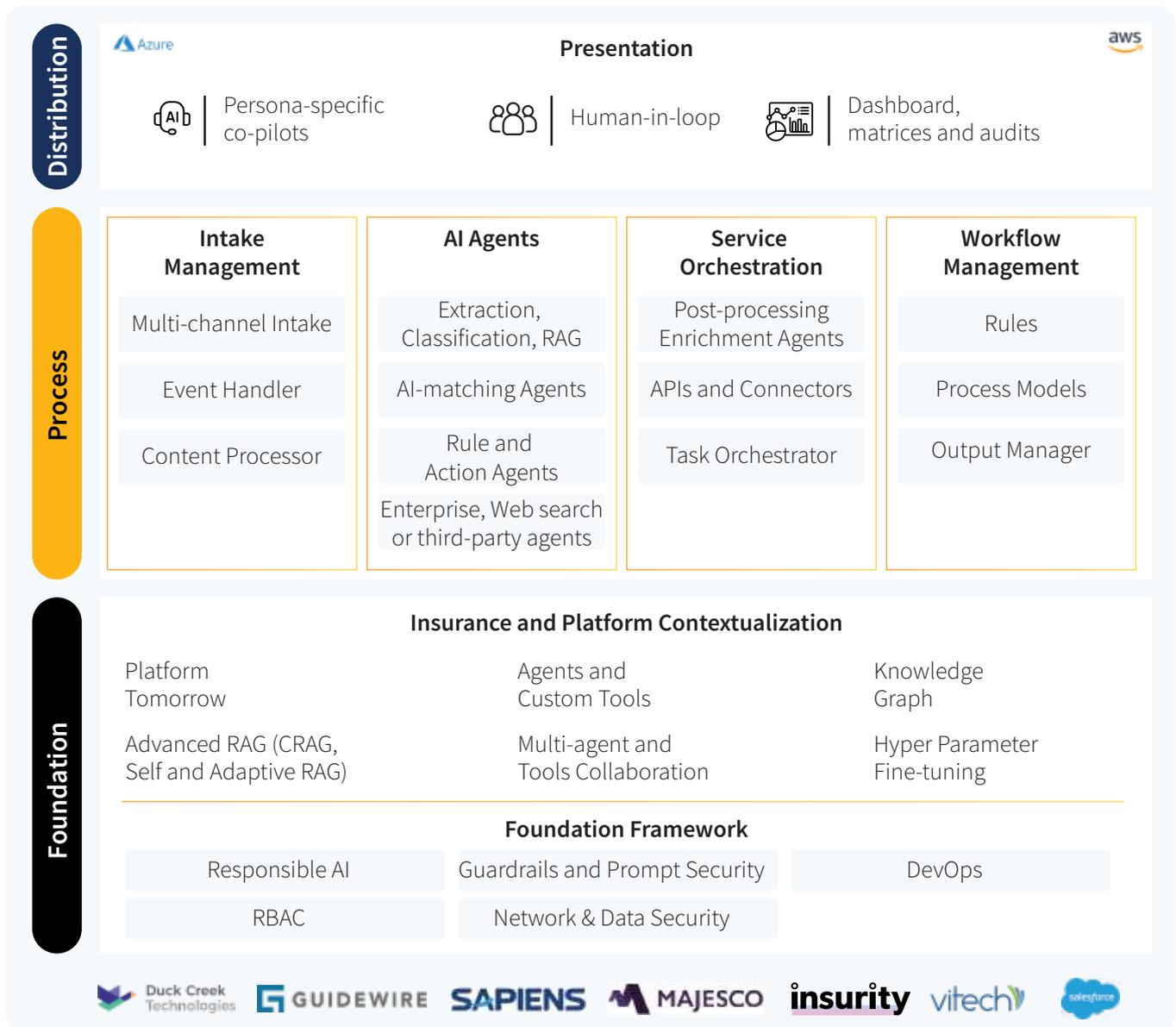|		
Kubernetes-based containerized deployment across major cloud hyperscalers (Azure, AWS, GCP, etc.)	Plug-and-play support for LLMs and other enterprise tools	Composable architecture for modular agent management

By building on these pillars, insurers can create a comprehensive, future-ready IDP solution that automates document handling, strengthens compliance, and supports business growth with trust and operational efficiency.
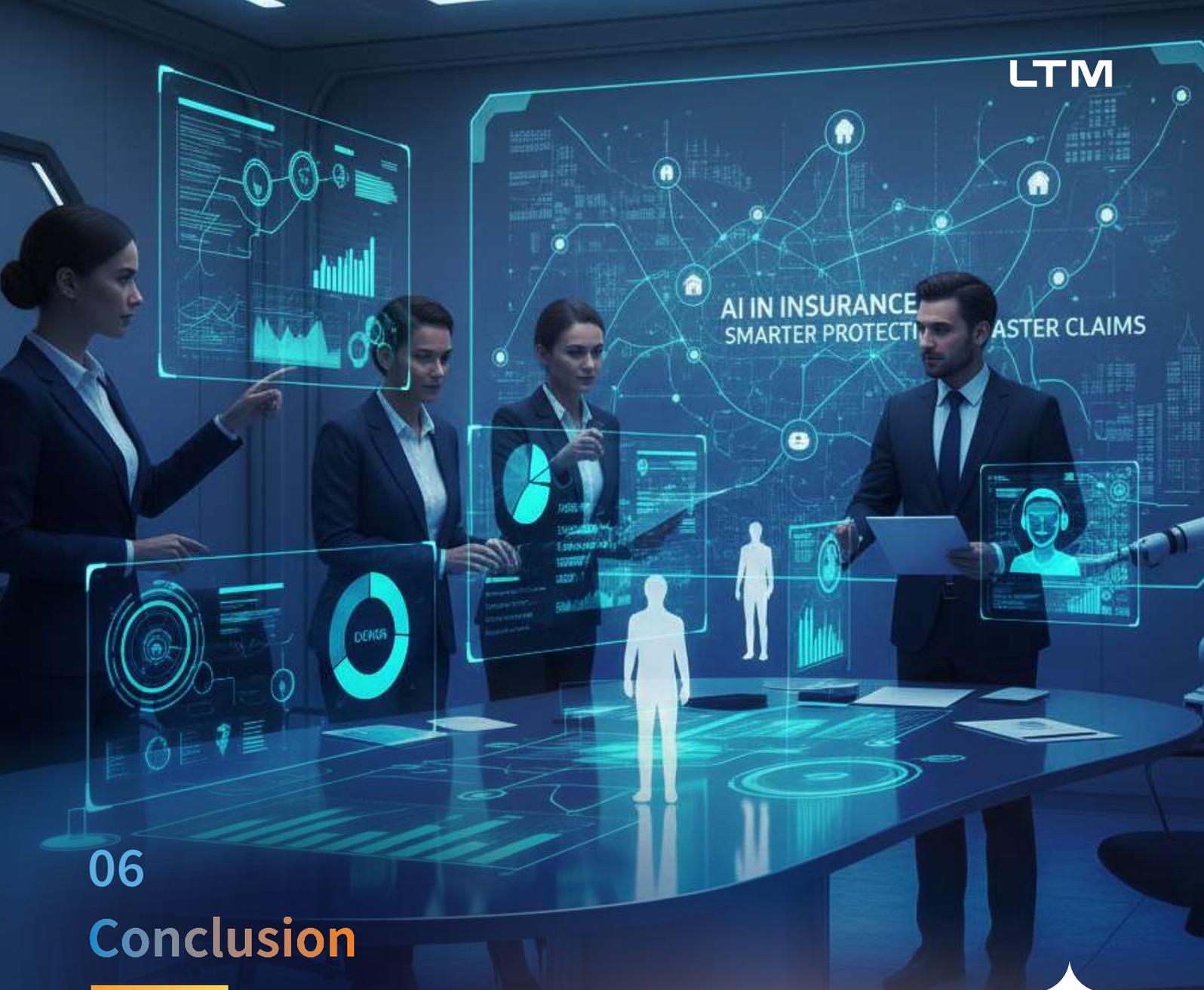
Reference Architecture

Distribution

Azure | **Presentation** | aws

Persona-specific co-pilots | Human-in-loop | Dashboard, matrices and audits

Process

Intake Management	AI Agents	Service Orchestration	Workflow Management
Multi-channel Intake	Extraction, Classification, RAG	Post-processing Enrichment Agents	Rules
Event Handler	AI-matching Agents	APIs and Connectors	Process Models
Content Processor	Rule and Action Agents	Task Orchestrator	Output Manager
	Enterprise, Web search or third-party agents		

Foundation

Insurance and Platform Contextualization

Platform Tomorrow	Agents and Custom Tools	Knowledge Graph
Advanced RAG (CRAG, Self and Adaptive RAG)	Multi-agent and Tools Collaboration	Hyper Parameter Fine-tuning

Foundation Framework

Responsible AI	Guardrails and Prompt Security	DevOps
RBAC	Network & Data Security	

Duck Creek Technologies | GUIDEWIRE | SAPIENS | MAJESCO | insurity | vitech | salesforce

Benefits of an Agentic IDP Solution for the New Submission Process for a Commercial Insurer

70 - 80% Straight through processing of clearance and appetite check

55 - 60% Straight through processing of initial rate

40 - 50% Reduction in time spent on risk analysis

10 - 15% Increase in new business premium

Fig 2: Reference architecture of a comprehensive IDP solution

06
Conclusion

The future of insurance operations depends on embracing intelligent, adaptive systems that go beyond traditional automation. Agentic AI-driven IDP solutions empower insurers to process vast, complex data with precision while staying agile amid evolving market demands. By prioritizing configurability, transparency, and scalability, insurers can unlock new efficiencies and deliver superior customer experiences. The path forward is clear: harness AI-driven intelligence to transform document processing into a strategic enabler of growth and long-term competitiveness.

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Maharaja is a Principal–Architecture at LTM, leading the Insurance Solutions CoE architecture team. He drives AI and Gen AI adoption, solution development, technology leadership, and cloud modernization. His expertise spans enterprise architecture, technology consulting, governance, and delivering product and platform solutions for insurance clients.

Maharaja Bhattacharya

Principal - Architecture

LTM

Vimochak: Leveraging Generative AI for Autonomous Ticket Analysis and Resolution in Insurance Platforms

Authors

▸ Raghavendra Vasant Naik

▸ Hema Thiagarajan

01
Abstract

While the core system of insurance companies is policy administration, many insurers have transitioned from legacy systems to commercial off-the-shelf (COTS) products such as Guidewire, Duck Creek, Majesco, Sapiens, and Vitech V3locity. Over time, these systems accumulate customizations and configurations, as well as transactions performed by business users, apart from issues in standard operating procedures, and process defects, leading to recurring production issues. Currently, resolving these issues is often a slow and manual task, despite the existence of extensive ticket history in tools like Jira, ServiceNow, and Azure DevOps.

This paper introduces Vimochak, an autonomous agent powered by generative AI. Unlike traditional automation, Vimochak doesn't just follow rules—it understands context, learns from history, and generates actionable solutions. It analyzes new tickets, searches historical data, identifies root causes, and suggests resolutions. It then creates a resolution document, emails stakeholders, and creates tasks in ticketing systems, thereby reducing turnaround time and improving accuracy.

This paper also details how Vimochak was tested through a competitive PoC in LTM's Blueverse Game of Agents challenge. The results of this PoC, along with the concept, are included to demonstrate Vimochak's unique strengths and real-world impact in insurance ticket resolution.

Generative AI brings life to what was once just an idea in our minds. Vimochak goes beyond suggesting fixes: when code or configuration changes are needed, it can point to the exact area in the system where the fix should happen. It also classifies issues into clear categories like configuration, data fixes, long-term code changes, or business process tweaks.

By combining historical knowledge with generative intelligence, Vimochak helps insurers move from reactive firefighting to proactive, intelligent resolution, delivering faster service, better compliance, and improved customer experience.

02
Introduction and Problem Statement

Insurance companies depend on policy administration systems (PAS) as the foundation of their operations. In recent years, many insurers have transitioned from legacy systems to commercial off-the-shelf (COTS) platforms such as Guidewire, Duck Creek, Majesco, Sapiens, and Vitech V3locity. These platforms offer flexibility and scalability, but over time, they accumulate customizations, configuration changes, and business process variations. Additionally, day-to-day transactions performed by business users, gaps in standard operating procedures (SOPs), and process inefficiencies introduce complexities and risk.

This often leads to recurring production issues ranging from incorrect policy calculations and rating errors to workflow breakdowns and integration failures. While organizations maintain extensive ticket histories in tools like Jira, ServiceNow, and Azure DevOps, these valuable insights remain largely underutilized.

Consider an insurer that migrated to a COTS platform eight years ago. Over time, multiple customizations were added to meet business needs. Recently, a recurring issue emerged where amendment transactions failed during mid-term policy changes. The root cause was a configuration mismatch introduced years ago, compounded by a custom rating rule. The original developers who implemented these changes had left the organization, and the only clues were buried in old Jira tickets, SharePoint folders, and Confluence pages. The operations team spent days piecing together the history, delaying resolution and frustrating both internal teams and customers.

03
Current Challenges

Manual Root Cause Analysis

▸ Teams spend hours combing through logs, configurations, and historical tickets to identify the root cause.

Lack of Historical Reuse

▸ Even when similar issues have occurred before, the knowledge is not easily accessible, leading to repeated analysis and redundant fixes.

Delayed Communication

▸ Coordinating between business users, developers, and QA teams often slows down resolution.

Loss of Institutional Knowledge

▸ Many policy administration systems have been in place for 6–10 years or more. Over this period, multiple teams and individuals have worked on them, and many have since moved on. This results in the loss of valuable knowledge, which often exists only as scattered comments, analysis notes, SharePoint documents, ticket attachments, or requirement repositories like Confluence. While this information is technically available, it is not easily searchable or actionable, making it difficult to leverage during incident resolution.

Operational Impact

▸ Delays in resolving production issues affect policy issuance, endorsements, renewals, and claims—ultimately impacting customer satisfaction.

04
Why This Matters

Today, resolving production issues is manual, repetitive, and time-consuming. Teams often reinvent the wheel for every new ticket, despite having years of historical data. This inefficiency increases costs and prolongs downtime, affecting business operations and customer trust.

05
The Generative AI Opportunity

This is where generative AI changes the game. Unlike traditional automation, which follows predefined rules, generative AI can understand the context, learn from historical data, and generate actionable solutions in natural language. It bridges the gap between complex technical processes and business understanding, making resolution faster and more accurate.

Generative AI brings life to ideas that once existed only as thought experiments. It transforms the question—"What if the system could learn from past tickets and suggest fixes?"—into a buildable, intelligent system. This is the foundation of Vimochak, an autonomous agent designed to revolutionize production issue resolution in insurance policy systems.

Vimochak: The Autonomous Agent for Insurance Issue Resolution

To address the challenges of recurring production issues, loss of institutional knowledge, and manual resolution processes, we introduce Vimochak—an autonomous agent powered by generative AI. Vimochak is designed to transform how insurance companies manage and resolve issues in their policy administration systems (PAS) built on COTS platforms like Guidewire, Duck Creek, Majesco, Sapiens, and Vitech V3locity.

Unlike traditional automation tools that follow rigid workflows, Vimochak understands, learns, and generates. It reads new tickets, analyzes historical data, identifies root causes, and creates actionable resolution plans—all while automating communication and task assignment. By doing so, it bridges the gap between business knowledge and technical execution, making the resolution process faster, smarter, and more reliable.
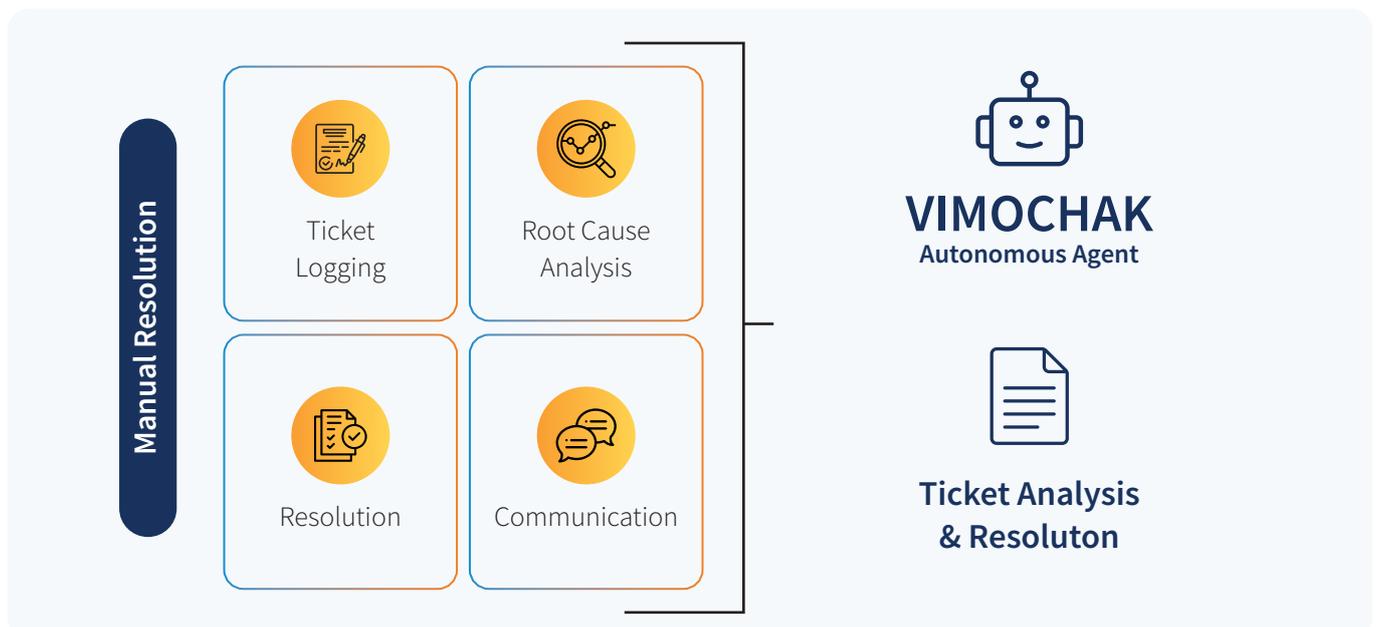

Manual Resolution

Ticket Logging

Root Cause Analysis

Resolution

Communication

VIMOCHAK
Autonomous Agent

Ticket Analysis & Resoluton

Figure 1: From manual ticket resolution to Vimochak's autonomous agent-based ticket analysis and resolution

06
Vision

To redefine production issue resolution in insurance policy administration systems (PAS) by leveraging generative AI to create an intelligent, self-learning agent that reduces manual effort, accelerates turnaround time, and ensures knowledge reuse across the enterprise.

Objectives

Intelligent Ticket Analysis
▶ Interpret new issues in natural language, not just keywords.

Historical Knowledge Mining
▶ Unlock insights from years of tickets, documents, and repositories like Jira, ServiceNow, Azure DevOps, SharePoint, and Confluence.

Generative Resolution Plans
▶ Automatically generate clear, step-by-step resolution documents that business and technical teams can understand.

Automated Actioning
▶ Send notifications, create tasks, and update ticketing systems without manual intervention.

Codebase Enhancement
▶ When code or configuration changes are required, Vimochak can pinpoint the exact class, method, or configuration file likely responsible for the issue. This is achieved by analyzing stack traces, historical fixes, and repository structures, reducing developer effort and error risk.

Continuous Learning
▶ Improve accuracy and recommendations with every resolved ticket.

LTM

07
Solution Overview:
How Vimochak Works

Vimochak is an autonomous agent powered by generative AI that combines language understanding, historical knowledge mining, and intelligent automation to resolve production issues in insurance systems. It is designed to think, learn, and act, making the resolution process faster, smarter, and more reliable.

Key Capabilities

Ticket Ingestion and Understanding

Vimochak connects to Jira, ServiceNow, and Azure DevOps to read new tickets. It uses Natural Language Processing (NLP) models to interpret ticket descriptions, extract key details like error messages, and understand the business context.

Historical Knowledge Mining

Instead of starting from scratch, Vimochak uses semantic search powered by vector embeddings (e.g., models like sentence transformers) to find similar past issues from years of ticket history, SharePoint documents, and Confluence pages.

Root Cause Analysis and Categorization

Vimochak applies classification models to categorize issues into predefined buckets as per the below categorization framework.

- Configuration customization
- Data fixes
- Long-term code fixes (customization site)
- Long-term configuration fixes (product level)
- Product fixes
- Business transaction required
- Process tweak/SOP update

Vimochak also uses pattern recognition and historical clustering to identify likely root causes.

Generative Resolution Document

Using large language models (LLMs), Vimochak generates a detailed resolution document in natural language. This includes:

Root cause explanation	**Recommended fix steps**	**Suggested test cases**

These outputs are grounded in historical data using retrieval augmented generation (RAG), which ensures accuracy and reduces hallucinations.

Automated Actioning

Vimochak integrates with APIs to:

Send emails via Microsoft Graph	**Create tasks in Jira, ServiceNow, or Azure DevOps**	**Attach the generated resolution document for traceability**

Codebase Enhancement (Advanced Capability)

When code or configuration changes are required, Vimochak uses:

Static code analysis tools	**Language parsers**	**Suggested test cases**

Combined with historical fix patterns, it can pinpoint the exact class, method, or configuration file likely responsible for the issue. This reduces developer effort and accelerates resolution.

Continuous Learning

Every resolved ticket feeds back into the system. Vimochak uses reinforcement learning from human feedback (RLHF) principles to improve its recommendations over time.
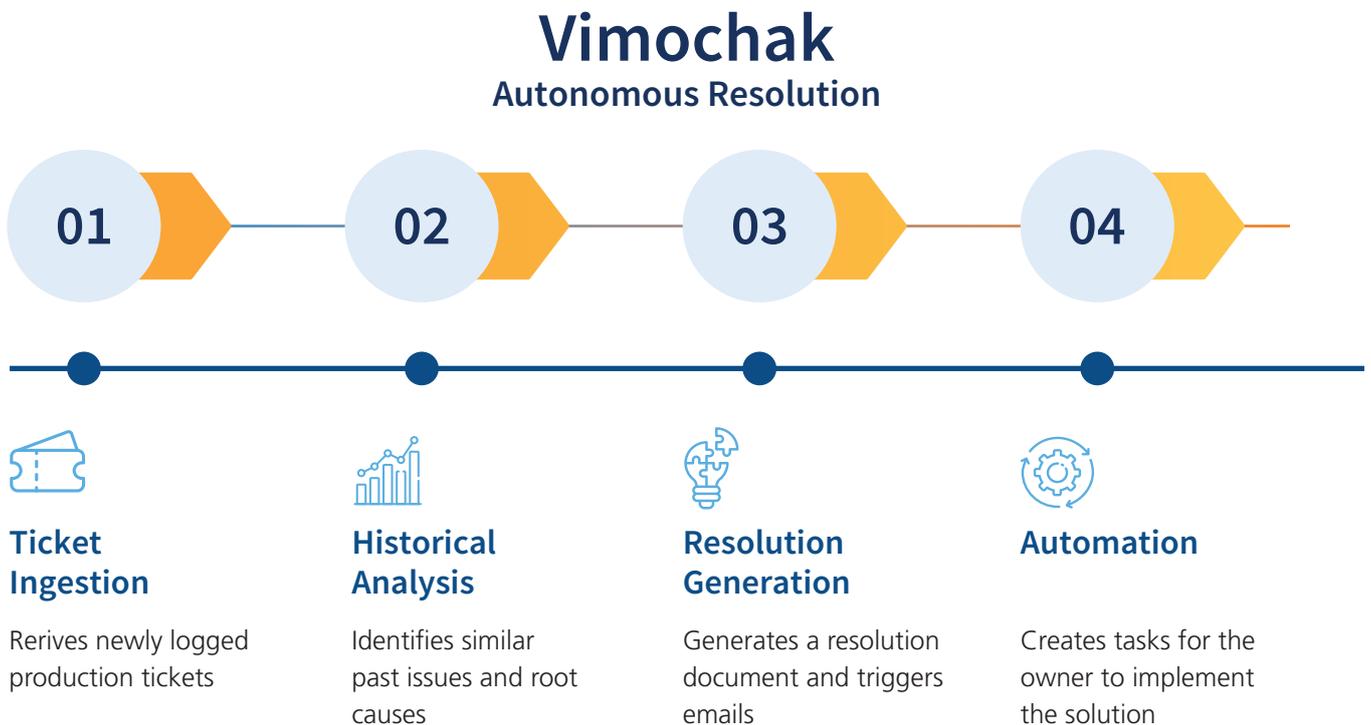
Vimochak Workflow

Vimochak
Autonomous Resolution

01 **02** **03** **04**

Ticket Ingestion
Rerives newly logged production tickets

Historical Analysis
Identifies similar past issues and root causes

Resolution Generation
Generates a resolution document and triggers emails

Automation
Creates tasks for the owner to implement the solution

Figure 2: Workflow for the autonomous agent-based ticket analysis and resolution

To validate these capabilities in a real-world, competitive setting, we put, Vimochak to the test in the Game of Agents challenge. The following section details our experience and the measurable impact achieved.

08
PoC in Game of Agents:
Real-World Impact of Vimochak

Background and Motivation

The author of this paper works on production ticket support for Vitech's V3locity platform, serving a North American group insurance carrier. The support team routinely handles tickets ranging from two to four years old, with many issues recurring or sharing similar root causes. For older tickets, especially those transitioned from other vendors, it often required six to eight hours to review the ticket history, understand the problem, and analyze previous solutions. This slow, manual process highlighted the need for a more efficient approach to leveraging historical knowledge and accelerating issue resolution.

These operational challenges inspired the development of an intelligent solution capable of discovering relevant insights, reducing manual effort, and enabling the team to focus on problem-solving rather than repetitive analysis.

To validate the concept, Vimochak was submitted to the "Game of Agents"—a hackathon-style innovation challenge conducted by LTM's BlueVerse™ team. The event attracted over 150 idea submissions, with just 30 selected for implementation. Vimochak was recognized as one of the top six ideas, earning the opportunity for further development and showcase.

PoC Design

During the Game of Agents challenge, Vimochak was created and deployed as an autonomous agent on the LTM Blueverse platform. The POC focused on production tickets from insurance platforms, challenging Vimochak to analyze synthetic ticket data, identify root causes, and suggest solutions by referencing similar historical tickets. The ticket structure simulated cases commonly encountered by support teams.

Key Results

Resolution Time
Reduced from 2–3 hours (manual process) to just 30–40 seconds with automated analysis.

Accuracy
Achieved 70% accuracy in identifying the correct root cause and providing the solution.

Scalability
Operated as a low-code solution, demonstrating ease of integration and adaptability to evolving business needs.

Although the proof of concept was not a full-scale implementation, the results were encouraging. The current low-code search and matching approaches demonstrated slower performance and reduced accuracy in comparison. With targeted optimizations—such as refining Python-based prompts and incorporating MCP tool layers—further improvements in accuracy and scalability are anticipated. Future objectives include extending the POC to additional ticket types and establishing feedback loops for continuous learning.

To further illustrate Vimochak's value, the following section compares its capabilities to other market solutions and highlights its deep insurance domain focus.

Vimochak's Unique Market Advantages and Insurance Domain Focus

Vimochak's unique market advantage lies in its deep insurance domain expertise and specialized support for COTS-based policy administration systems. Unlike generic AI ticket analysis tools, Vimochak leverages semantic search to mine years of historical ticket data, generates actionable resolution documents, automates communication and task creation, and is designed to integrate with systems to access code-level details for technical fixes. Its continuous learning and low-code integration make it especially suited for addressing complex, recurring production issues in insurance, setting it apart from broader customer support solutions.

Feature/Tool	Vimochak	SentiSum / SupportLogic	TicketFu
Insurance COTS PAS Focus	Yes	No	No
Semantic Search of Historical Tickets	Yes	Partial	Yes
Generative Resolution Docs	Yes	No	No
Codebase Intelligence	Yes	No	No
Continuous Learning	Yes	Partial	Partial

Table 1: Comparison of Vimochak with similar tools in the market

1 Key Benefits and Business Impact

Vimochak delivers measurable improvements across operational efficiency, cost reduction, and customer experience. By leveraging generative AI, it transforms issue resolution from a reactive, manual process into an intelligent, proactive system.

Faster Resolution and Reduced MTTR

Before:
Teams spend hours or even days analyzing logs, searching for old tickets, and coordinating fixes.

After:
Vimochak reuses historical knowledge and generates actionable solutions within minutes, significantly reducing mean time to resolve (MTTR).

In the PoC, Vimochak reduced the resolution time from 2–3 hours to just 30–40 seconds per ticket.

For a support team handling 100 tickets per month, this could save over 300 hours monthly-equivalent to the workload of several full-time analysts. At scale, insurers could realize thousands of hours saved annually.

2 Knowledge Retention and Reuse

Captures institutional knowledge from Jira, ServiceNow, Azure DevOps, SharePoint, and confluence. Prevents knowledge loss due to employee turnover by making historical insights searchable and actionable.

3 Lower Operational Costs

Reduces manual effort for root cause analysis and documentation and minimizes redundant work by reusing proven solutions. If each ticket previously required 2-3 hours of analyst time, and Vimochak reduces this to under a minute, the cost savings per ticket are substantial. For large insurers processing thousands of tickets annually, this translates to significant reductions in labor costs and operational overhead.

4 Improved Accuracy and Compliance

Vimochak generates standardized resolution documents for every issue and ensures traceability and audit readiness for regulatory compliance.

The POC achieved 70% accuracy in identifying root causes and solutions, compared to manual processes that often rely on guesswork or incomplete information. With continuous learning and feedback, accuracy is expected to improve further. This means fewer repeat incidents, reduced escalation rates, and more consistent service quality.

5 Enhanced Developer Productivity

A code intelligence feature pinpoints the exact class, method, or configuration file for fixes, reducing guesswork and rework. This accelerates delivery of long-term fixes without impacting COTS core stability.

It supports analysts' and developers' daily frustrations—slow ticket analysis, knowledge loss, and repetitive manual work. These were directly addressed in the POC. At scale, Vimochak can improve analysts and developers satisfaction, reduce burnout, and free up skilled analysts to focus on higher-value tasks.

6 Continuous Improvement

Learns from every resolved ticket, improving accuracy and recommendations over time. Uses feedback loops and AI evaluation metrics (e.g., RAGAS) to ensure quality.

Benefits of Vimochak
Autonomous Resolution

Root Cause Explanation

MTTR

Knowledge Retention

Makes historical insights searchable and actionable

Lower Costs

Reduces manual effort and redundant work

Improved Accuracy

Generates a standardized resolution document

Developer Productivity

Pinpoints exact code and configuration changes

Continous Improvement

Learns from feedback to enhance recommendations

Figure 3: Benefits of Vimochak

Conclusion

Vimochak is more than a tool; it is a strategic enabler for insurance companies striving to modernize operations and improve service reliability. By combining generative AI, historical knowledge mining, and intelligent automation, Vimochak transforms the way production issues are resolved. It eliminates repetitive manual work, accelerates turnaround time, and ensures that valuable institutional knowledge is not lost. While the PoC was not a full-scale implementation, the encouraging results highlight Vimochak's potential. With further optimizations—such as refining Python-based prompts and integrating MCP tool layers—greater accuracy and scalability are expected. Future plans include expanding Vimochak to more ticket types and establishing continuous learning through feedback loops.

With its ability to analyze tickets, learn from history, generate actionable resolutions, and even pinpoint code level fixes, Vimochak bridges the gap between business and technology. It empowers teams to focus on innovation rather than firefighting, delivering measurable improvements in efficiency, compliance, and customer satisfaction. In an era where speed and accuracy define competitive advantage, Vimochak positions insurers to lead with confidence, turning reactive problem-solving into proactive, intelligent resolution.

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About the Authors

Raghavendra is an experienced IT professional with over 16 years in the industry, including 13 years dedicated to insurance systems. He has worked extensively with global insurance clients across various functional roles, gaining deep insights into operational challenges and business processes. His hands-on experience has shaped his understanding of ground-level issues faced by insurers. A passionate advocate for generative AI, Raghavendra believes in its transformative potential to solve real-world business problems.

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Hema has 20+ years of experience in life insurance and pensions industry, and IT services. With a broad spectrum of expertise in insurance administration, business analysis/consulting, project and program management, she loves to support customers with complex problems and provide viable solutions. She has delivered multiple assignments to clients across the globe by leading BA and project teams. As an ardent agile practitioner, she has helped streamline client engagements for better quality deliveries that have been appreciated by customers.

Hema Thiagarajan

Associate Principal
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Quantum-AI Convergence: The Future Insurance Leaders are Building Today

Author

▶ Saurabh Kumar

Executive Summary

The insurance industry stands at the edge of a seismic shift—one that will redefine how risk is priced, policies are secured, and customer trust is earned. Quantum computing, once a distant possibility, is now converging with artificial intelligence (AI) to create a powerful new force: Quantum-AI.

This convergence is unfolding unevenly worldwide. North America is leading with bold pilots, Europe is emphasizing regulatory readiness, Asia-Pacific is fueling rapid innovation through state-backed investments, and emerging markets are poised to leapfrog with focused, high-impact applications.

For CXOs, this moment demands urgent action. Waiting too long risks losing ground to competitors and leaving sensitive data vulnerable to quantum-era threats. Acting now creates opportunities for breakthrough underwriting, dynamic portfolio optimization, advanced fraud detection, and hyper-personalized customer experiences.

This POV explores how Quantum-AI is reshaping global insurance, offering regional insights, use cases, and a roadmap to scale adoption from pilot programs to enterprise-wide transformation. It also challenges leaders to confront a fundamental choice: Will you lead the future of insurance or be forced to follow those who do?

Introduction

"Perhaps The Most Disruptive Technology in History Is Coming and It's Expected to Change Everything. Businesses And Marketers Need to Get Quantum Ready." - Forbes

Insurance has always been about managing uncertainty. Today, that uncertainty is amplified by technological disruption and climate volatility. AI has already redefined how insurers detect fraud, optimize portfolios, and engage customers. Now, quantum computing is entering the picture, adding a level of computational power that could upend every aspect of the industry.

This convergence will redraw competitive lines. The winners will be those who act with speed and foresight, adapting to vastly different adoption patterns across regions shaped by regulation, investment, and innovation ecosystems. Understanding these dynamics is critical to charting the path ahead.

Global Industry Context & Strategic Challenges

North America

As the world's largest insurance market, North America generates nearly USD 1.5 trillion in annual premiums. Regional leaders are moving from theory to action, piloting Quantum-AI in:

Catastrophe modeling for sharper risk prediction and pricing	Fraud detection to uncover anomalies in real-time	Claims automation to boost efficiency and customer satisfaction

Strategic Challenge

While early pilots show promise, limited-scale experiments do not create lasting impact. The real challenge for CXOs is to transition from proof-of-concept to enterprise-wide adoption. Those who act decisively will redefine operational benchmarks, while slow movers risk falling behind as competitors.[1]

Europe

In contrast to North America's fast-moving, innovation-first approach, Europe is advancing with caution and compliance at its core. The EU's Digital Operational Resilience Act (DORA), effective January 2025, mandates insurers to strengthen resilience testing, bolster cyber risk defenses, and prepare for migration to Post-Quantum Cryptography (PQC).

Key focus areas include:

Dynamic pricing to meet evolving regulatory and market needs

ESG-linked insurance products promoting sustainable and responsible risk management

Quantum-ready cybersecurity to safeguard sensitive data

Strategic Challenge

European insurers must balance innovation with regulatory precision. While Quantum-AI opens doors to breakthrough opportunities, missteps in compliance could erode customer trust and invite costly penalties. Success will depend on innovating boldly yet responsibly, ensuring that growth initiatives remain fully aligned with EU oversight.[2]

Asia-Pacific (APAC)

Building on the global momentum, APAC is advancing through state-led acceleration. Governments in China, Japan, and Singapore have committed over USD 15 billion in quantum R&D, while many other carriers are using pilot AI-quantum platforms for fraud analytics and personalized underwriting.

Key focus areas include:

Fraud detection and advanced risk analytics

ESG-linked insurance products promoting sustainable and responsible risk management

Quantum-enabled modeling for complex portfolios

Strategic Challenge

Unlike Europe, regulation is not the main barrier, commercial viability is. What CXOs must answer is: How do we turn ambitious, research-heavy pilots into solutions that deliver measurable ROI and customer impact?[3]

Emerging Markets

While each region faces unique challenges, a common theme emerges: no market can afford to stand still. Whether it's North America racing to scale, Europe navigating regulations, APAC driving state-backed pilots, or emerging markets aiming to leapfrog, the stakes are rising fast.

This brings us to a bigger question—not just where the industry is today, but how insurers can prepare for what's next. That's where the convergence of Quantum and AI comes in: a transformational force redefining the very foundation of insurance.

The Strategic Perspective: Quantum + AI = Exponential Impact

Quantum and AI are no longer separate innovations; they are twin engines of transformation for the insurance industry. When combined, they don't just improve existing processes, they redefine what's possible.

Today, AI delivers value by detecting fraud patterns, predicting churn, personalizing products, and automating claims, helping insurers understand what has happened and what is likely to happen.

Quantum takes this further, solving problems too complex or time-sensitive for classical systems, like simulating entire portfolios, optimizing reinsurance scenarios, or modeling climate catastrophes at unprecedented speed and scale.

Together, they create a convergence play:

AI provides intelligence; Quantum provides computational power.

AI sets the direction; Quantum clears the path.

This shift isn't incremental, it's exponential, setting the stage for insurers to move beyond adaptation toward true industry leadership.

Why This Matters for CXOs

The Quantum-AI convergence is a strategic imperative. For insurance leaders, this shift will fundamentally reshape competition, trust, and speed of execution.

Speed as a strategy: Complex models that once took months, like climate risk across regions, can now run in near real-time. Imagine repricing catastrophe exposure during a storm, not after.

Trust at risk: Quantum's ability to break down today's encryption makes customer data highly vulnerable. Proactive investment in post-quantum cryptography (PQC) is critical to maintaining trust and compliance.

Competition redefined: According to McKinsey, quantum is a "disruptive enabler." Early movers will set new computational standards, forcing others to adapt or fall behind.[4]

For insurers, this is about survival and leadership. Those who act first will dynamically price risk, redefine customer experiences, protect trust, and shape global standards.

Questions Every CXO Must Ask

▸ If your competitor can settle claims instantly by 2030, where does that leave you?

▸ Are you investing enough in quantum-safe security today, or leaving customer trust exposed?

▸ Will you set computational standards or be forced to follow those who do?

Signals CXOs Can't Ignore

Quantum-AI in insurance has shifted from theoretical to inevitable. The data paints a clear picture: this shift is accelerating, and those who hesitate risk being overtaken by faster, more agile competitors. For CXOs, these numbers are strategic warning signs and opportunity signals.
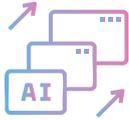
AI's Rapid Scale in Insurance

▸ The global **generative AI insurance market** is projected to grow from **USD 407.6 million in 2024 to USD 7.27 billion by 2034**, at a **33.4% CAGR.**[5]

▸ **Majesco's AI-enabled workflows allow insurers to configure and deploy new products 30–50% faster than traditional methods.**

Quantum-AI Market Acceleration

▸ The quantum behavior AI training market is set to rise from USD 29 million in 2024 to USD 762.6 million by 2034, at an even faster 39% CAGR.[6]

▸ **This signals a clear shift: enterprises are beginning to place serious bets on hybrid AI-quantum architectures. The ones who move now will shape how this technology scales and standardizes across the industry.**

Value Creation on the Horizon

▶ BCG projects that enterprise-grade quantum could generate USD 450 - USD 850 billion in net global value by 2040, with financial services, including insurance, among the first to benefit.[7]

▶ **This isn't a distant future scenario. It's a direct call to action for insurers to start aligning their strategy today or risk losing relevance in the next decade.**

Why This Matters for CXOs

The numbers highlight a decisive moment for insurance leaders. Therefore, CXOs must recognize that today's decisions will define tomorrow's market leaders.

Here's what the data is really telling us:

Investors already betting big and waiting too long could mean missing the next growth curve entirely.	Competitors are piloting use cases now. First movers will not only learn faster but also establish the performance benchmarks others must follow.	Customers expect more. Personalization, speed, and security are no longer differentiators; they are table stakes for survival.

Bottom line: These aren't simply forecasts—they are signals. The market is already moving. The only question is whether your company will move with it or not.

Use Cases & Real-World Applications

Quantum AI is moving beyond whitepapers and labs; in fact, insurers are beginning to test, pilot, and implement solutions in risk modeling, optimization, fraud prevention, and customer experiences. For CXOs, these early experiments point to where strategic bets should be placed.

Climate & Catastrophe Risk Modeling

With climate volatility driving unprecedented losses, traditional models often fail to capture thousands of variables in real-time. Quantum simulations can process massive datasets, modeling hurricane paths, wildfire spread, or flood exposure with remarkable speed. For instance, a P&C insurance company in the US has partnered with the Chicago Quantum Exchange to develop quantum-powered catastrophe risk models that sharpen reinsurance decisions.

Portfolio & Capital Optimization

Reinsurance treaty design and capital allocation require evaluating billions of potential scenarios. Quantum AI combines AI's predictive power with its optimization capabilities to evaluate millions of strategies in minutes, helping insurers improve solvency and capital efficiency.

Fraud Detection & Cybersecurity

Fraud costs U.S. insurers over USD 80 billion annually, with traditional systems missing hidden patterns. PingAn is piloting hybrid AI-quantum systems to detect subtle fraud signals and reduce false positives. Similarly, European insurers are exploring quantum-safe cryptography to safeguard customer data and comply with emerging regulations like the EU's DORA mandate.

These early use cases show where forward-thinking insurers can place their first bets to lead in the next era of insurance.
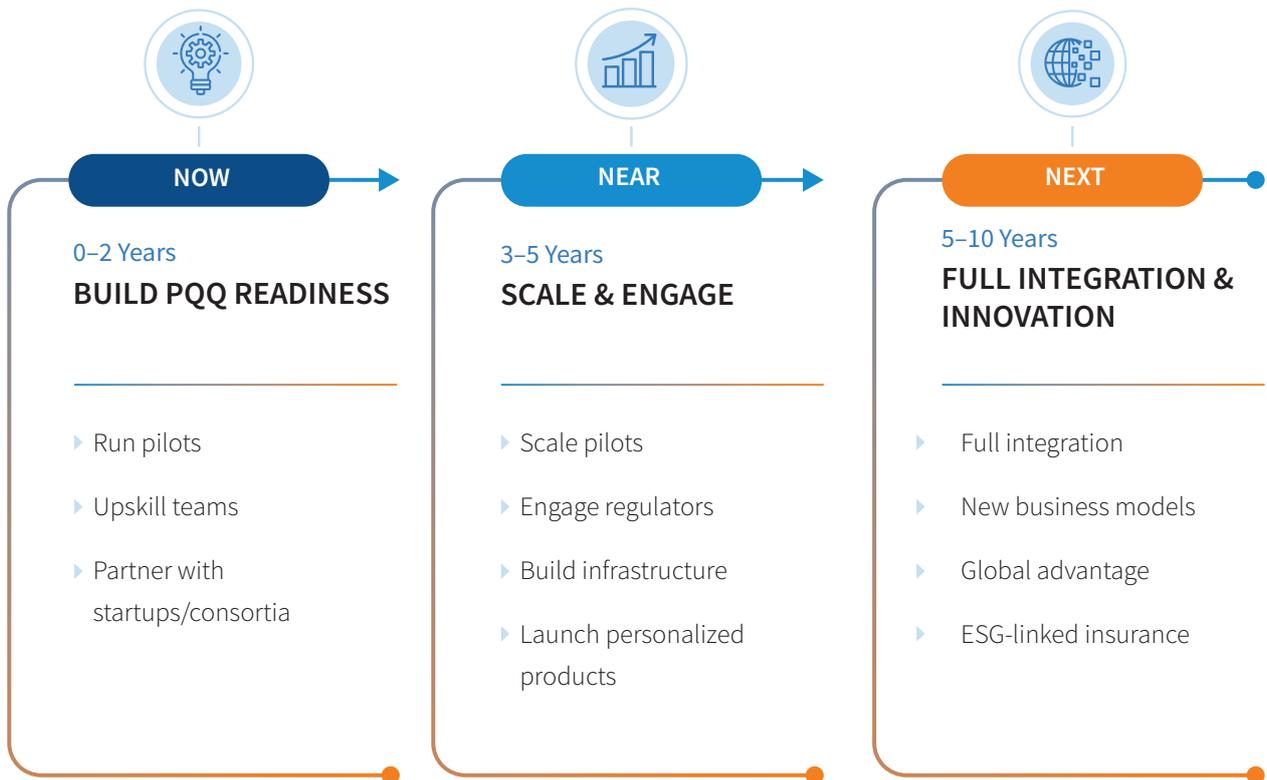
Why This Should Be on Every CXO's Radar

Quantum AI has shifted from theory to tangible impact, influencing decisions that affect revenue, risk, and trust. Climate risk modeling can save billions in potential losses, while portfolio optimization can unlock new margins. Fraud detection can protect solvency, and quantum-safe cryptography (PQC) will secure data integrity in a rapidly evolving digital landscape.

The lesson? Quantum-AI is already reshaping insurance. The only question is whether your organization will be a pilot, a swift follower, or a laggard.

The Quantum-AI Journey: From Readiness to Reinvention

Quantum-AI adoption is a phased evolution, not a single transformation. CXOs must act decisively across three horizons:

The Quantum-AI Journey Readiness Roadmap

NOW	**NEAR**	**NEXT**
0–2 Years	3–5 Years	5–10 Years
BUILD PQQ READINESS	**SCALE & ENGAGE**	**FULL INTEGRATION & INNOVATION**
▸ Run pilots	▸ Scale pilots	▸ Full integration
▸ Upskill teams	▸ Engage regulators	▸ New business models
▸ Partner with startups/consortia	▸ Build infrastructure	▸ Global advantage
	▸ Launch personalized products	▸ ESG-linked insurance

Conclusion: From Risk to Reinvention

The insurance industry is at a historic inflection point. For decades, insurers have focused on transferring risk. In the Quantum-AI era, that mandate expands: insurers must evolve into intelligence-driven orchestrators of resilience.

Quantum-AI is not simply another technology trend; it's a fundamental shift. AI brings prediction at scale, while quantum delivers unprecedented optimization and simulation power. Together, they open the door to faster decisions, smarter products, and stronger trust.

For CXOs, the challenge is not whether to act, but how quickly and decisively. Securing customer data through Post-Quantum Cryptography (PQC), embedding Quantum-AI into risk models, and shaping ecosystems are no longer optional, they are the foundation for future competitiveness.

The path forward is clear: start small with targeted pilots, form partnerships to accelerate learning, and reframe insurance as an intelligence business, not just a risk-transfer one.

The question that remains is simple yet urgent: Will you lead this shift, or be forced to follow it? The decisions you make today will define whether your organization merely survives disruption or sets the standards others must chase tomorrow.

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Insurance Industry at an Inflection Point: AI-Powered GCC Advantage

Author
▶ Sanjeev Kumar Bhore

01
Introduction: A Market on the Rise

The global insurance industry is going through one of the most disruptive decades in its history. Ever-changing customer expectations, climate risk, heightened regulation, and the rapid adoption of AI-enabled technologies are forcing insurers to reimagine their operating models. Profit margins remain under constant pressure, while the imperative for digital-first, resilient, and cost-effective operations has never been stronger.

Against this background, global capability centers (GCCs) have emerged as a strategic lever. Once viewed as offshore cost arbitrage saving hubs, GCCs are transforming into innovation engines. They are driving digital transformation, analytics, and AI-led efficiencies across the insurance value chain.

Massive Market Growth Projection

India's GCC market is projected to grow from USD 64.6 billion in 2024 to nearly USD 100–USD 105 billion by 2030. Sectors like insurance, healthcare, and retail stand to power much of this growth.

More than 1,580 GCCs already operate in India, spanning BFSI, healthcare, retail, and insurance, with the latter emerging as one of the fastest-growing verticals. [IV]

Most companies establishing or expanding GCCs in India are from the Americas, followed by Europe, driven by the region's strong talent pool and cost-efficiency. [II] This trend underscores India's position as a preferred hub for global firms seeking to build dedicated, in-house capabilities for strategic operations. As EY highlights, the majority of new GCC investments in India come from the Americas (49%) and Europe (21%), precisely because insurers recognize the strategic advantage of scaling operations in a cost-efficient yet talent-rich ecosystem.

Insurance-specific GCCs are up by 15% in India over the past few years, and they handle complex functions such as underwriting, claims, fraud detection, and embracing AI, blockchain, and predictive analytics.

02

Why Global Insurers are Establishing GCCs in India

Global insurers are increasingly investing in GCCs, especially in offshore regions, due to a convergence of strategic, technological, and economic factors. The insurance industry is under enormous pressure to deliver seamless, digital-first experiences to customers, agents, brokers and its partner ecosystem. According to PwC, insurers face "rapid shifts in customer expectations and regulatory demands" that require agile, tech-enabled operations. GCCs are filling this gap.

Figure 1: Insurance GCC Drivers

Let's take a closer look at the factors driving the growth of insurance GCCs in India.

Cost Optimization with Strategic Value

GCCs in cost-effective locations such as India allow insurers to significantly reduce operational expenses while maintaining quality. These savings can be redirected towards innovation and market expansion, and are being used to modernize policy administration systems, experiment with new digital products, and enhance customer experience platforms.

While initial GCCs were driven by cost arbitrage, India's GCC ecosystem has evolved into strategic hubs fueling innovation and growth, shifting from low-cost back offices to vital extensions of global headquarters.

Digital Transformation and Innovation

Digital transformation is mandatory for all insurance companies due to rapid shifts in customer expectations and regulatory demands. GCCs are being utilized for this transformation journey. They are evolving into innovation hubs, driving the adoption of AI, blockchain, predictive analytics, and cloud technologies, enabling insurers to modernize legacy systems and improve customer engagement.

Operational inefficiencies, legacy technologies, processes and outdated systems slow innovation. GCCs help introduce automation and analytics to modernize workflows.

In India, GCCs Now Drive

Blockchain for secure and transparent policy management

AI and predictive analytics for smarter underwriting and claims automation

Cloud adoption to modernize core systems

Customer engagement platforms that deliver personalization at scale
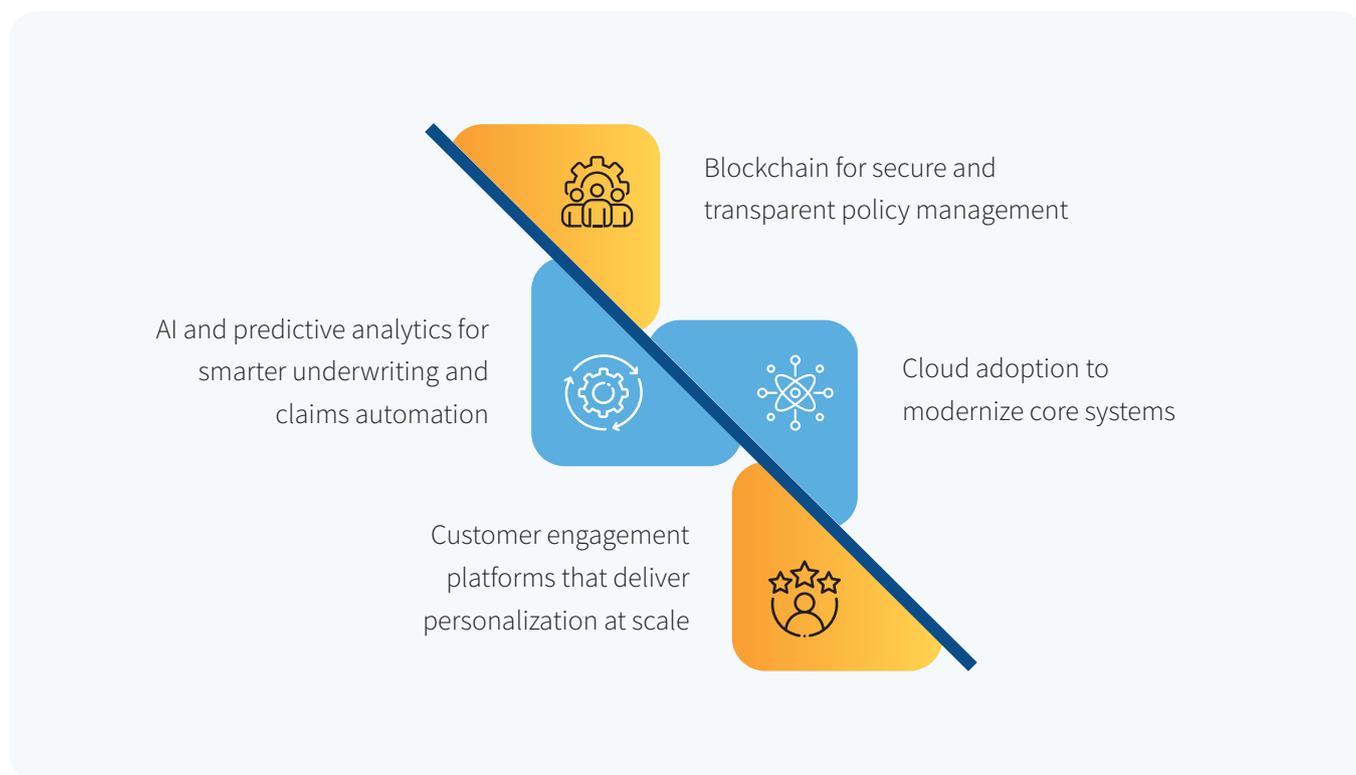
Access to Specialized Talent

Talent scarcity is one of the biggest challenges for global insurers. Western markets are dominated by tech giants competing for AI engineers, leaving non-tech industries struggling to fill critical roles.

India solves this problem. With a pool of 120,000+ AI-ready professionals along with deep expertise in data analytics, financials and insurance services, India's GCCs help bridge skill gaps and build future-ready workforces required to compete in a digital economy. This enables advanced capabilities in underwriting, claims, and fraud detection, etc.

Cultural Adaptability in India

Indian professionals seamlessly integrate with global work cultures, blending "German precision," "Silicon Valley spirit," and "French intellect "with American and European culture, making them trusted partners for multinationals.

Scalability and Agility

Insurance markets are cyclical and regulatory environments are volatile. GCCs offer the agility to scale capacity up or down quickly, launch pilots, enable faster deployment of new products and services in new markets, helping insurers to respond quickly to industry shifts. This enables demands to adapt to evolving compliance requirements.

Insurers adopting build-operate-transfer (BOT) models have successfully minimized setup risk while ensuring knowledge transfer into permanent, in-house GCC structures over time.

Managing Risks and Regulatory Compliance

Insurance deals with sensitive personal data. Centralizing operations in GCCs helps insurers navigate complex regulatory environments and implement robust cybersecurity and compliance frameworks. GCC setups in the market highlight how insurers are moving from tactical outsourcing to strategic insourcing via GCCs, using India as a base for transformation.

03
The Role of Service Providers and Enablers

Establishing and running a GCC is not without challenges. From navigating India's regulatory landscape to building talent pipelines and managing culture alignment, insurers often require specialized partners.

Service providers play a crucial role in enabling this transition. Mid-tier IT firms and GCC specialists now offer end-to-end services, often through BOT models or other models.

This includes

▶ Advisory on legal, compliance, and tax structures.

▶ Infrastructure, workplace management and administrative services with embedded ESG principles.

▶ Talent acquisition, talent management, and training tailored to insurance-specific needs. Insurers can get a jumpstart with service providers using their internal talent pool available or from their existing sources and managing services.

▶ Branding to establish their presence in the market and attract talent.

▶ Organizational change management (OCM) to ensure seamless cultural integration with insurance company headquarters.

▶ Establishing AI centers of excellence (COEs) to scale automation and analytics, embedding AI solutions for business operations and technology services.

▶ Bringing experience and capabilities of running and managing IT services and business operations services. Providing legacy modernization, consulting and implementation for suitable products and AI solutions. Bringing operational efficiency and solutions across the insurance value chain. This includes development of insurance products, smart intake, submission, underwriting, and claims.

▶ Innovation hub for product development, research, and customer experience.

▶ Guidance as experts in GCC setup and transformation.

A few service providers and mid-tier IT firms or GCC experts along with their core++ ecosystems and partnerships now offer end-to-end GCC support. This encompasses recruitment, infrastructure, regulatory compliance, and operating models like build-operate-transfer (BOT).

Typically, insurers prefer BOT or build-operate-transform-transfer, or setup-run-optimize-transform-transfer models. These models reduce lower upfront costs and execution risks and ensure insurers realize value faster.

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04
The Rise of AI-Enabled GCCs

The next frontier for insurance GCCs is **AI-led transformation**.

Historical Evolution to AI Leadership

Between 2000–2015, GCCs moved from IT and ERP support toward strategic roles like customer service and R&D. AI/ML and RPA adoption between 2015–2020 paved the way for the current era of hyper-automation.

AI-Centric CoEs Established or Planned

According to EY and PwC, more than 50% of Indian GCCs have either established or are planning to establish AI-focused CoEs, accelerating innovation by sharing practices and scaling automation. GCCs are integrating AI across operations, with use cases including Gen AI, NLP, RPA, OCR, computer vision, and advanced data science.

Transforming GCCs into Innovation Engines

India is leading global enterprises in AI co-creation in cities such as Pune, Hyderabad, Chennai, Bengaluru, and Noida.

AI's Impact: Hyper-automation and CoE Value

The impact is significant:

AI-powered hyper-automation streamlines IT, finance, insurance Ops and HR; enabling 40% faster response times, and 25% better customer satisfaction, led by robust CoEs.

Hyper-automation across underwriting, claims, and policy servicing improves accuracy, reduces cycle times, and accelerates claims verification and fraud detection. Predictive analytics improves pricing accuracy and risk modeling.

Gen AI and NLP enhance customer interactions through chatbots and intelligent document processing.

For insurers, this means GCCs are the epicenter of AI-led reinvention.

Benefits

Insurers are poised to embrace the GCC model in India due to multiple benefits.

▶ AI-led operational efficiency, hyper-automation and efficiency.

▶ Lower TCO and sustainable cost savings of more than 30–40%.

▶ Enhanced customer experience through AI-driven personalization, faster claims settlement, and better engagement.

▶ Highly productive IT, greater scalability, and high-quality service.

▶ Low risk during setup and roadmap to handover.

▶ Superior business resilience with 24/7 operations and geographic diversification.

▶ Improved compliance and governance with better risk management.

▶ Access to latest technologies and AI-ready talent.

▶ Faster innovation cycles with pilots moving from concept to production in record time.

▶ AI automation improves decision-making, reduces errors, and enables employees to focus on high-value work.

Conclusion
AI-Enabled GCCs are the Future of Insurance Transformation

India's GCC ecosystem has matured into a high-stakes strategic engine for global insurance firms. With deep AI talent, CoEs driving innovation, and strong support from service providers, GCCs are becoming central to organizational growth and digital transformation. The lesson for insurers is clear: GCCs must be seen not as back-office extensions but as strategic partners—innovation engines that reimagine the insurance enterprise. The winners in this space will be those who embrace GCCs as central to their business strategy, not peripheral to it.

By focusing on governance, integration, talent, AI, and future tech enablement, insurers can scale agile, resilient, and innovative operations, transforming from static back offices into dynamic innovation powerhouses that redefine insurance globally. Ultimately, AI-enabled GCCs are not just future-ready; they are redefining how the global insurance value chain innovates, executes, and remains resilient.

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