UST

The insurance AI flight plan

How CIOs and CTOs turn AI investment into claims and underwriting advantage

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Executive summary

Insurance is entering an intelligent era, but most AI initiatives are not yet improving core business performance. Pilots exist across claims, underwriting, and operations, yet they remain disconnected from shared data, operating models, and the metrics leaders are accountable for.

Leading insurers are taking a different approach. They are treating AI as an enterprise capability, aligning data, governance, and workflows so decisions move faster, scale safely, and deliver consistent results.

This guide presents a practical AI flight plan for moving from pilots to enterprise performance. It shows where to start, how to sequence investment, and how to translate AI into measurable gains in cost, speed, accuracy, and trust over the next 12 to 18 months.

The AI tipping point in insurance

No insurance carrier ever set out to get stuck in pilot mode. Yet that's exactly where much of the industry now finds itself: experimenting with AI in claims automation, underwriting, operations, fraud detection, and cybersecurity — but seeing almost no measurable business impact on loss adjustment expense (LAE), indemnity accuracy, or customer experience.

> Here's the uncomfortable truth:
> most insurers don't have a AI problem.

They have a productivity and profitability problem that AI pilots aren't fixing.

The pattern is familiar. A claims bot here. A GenAI-powered submission summarizer there. A document classifier somewhere else.

These isolated projects reside inside individual functions, none of which meaningfully change loss ratios, operational performance, or customer experience.

Four forces consistently hold insurers back:

- Fragmented data and legacy systems that make scaling near-impossible across products, lines of business, and geographies
- Unclear ROI measurement, especially when projects happen in silos, so finance cannot tie AI to combined ratio impact
- Governance and regulatory concerns, especially around responsible AI, that stall deployment beyond the prototype stage
- Disconnected use cases that never integrate into the underwriting, claims, or operations value chain

Insurers are optimizing pieces of the business when the real constraint is how decisions move across the enterprise.

AI in insurance is no longer a technology experiment; it's a performance, profitability, and competitiveness imperative.

The carriers breaking through aren't building better models.

They are redesigning their operating model for AI. Leading carriers are not treating AI not as a collection of POCs, but as a coordinated enterprise flight plan, with a clear destination, shared data, unified governance, and integrated workflows across claims, underwriting, operations, and cyber.

This guide distills how leading carriers are redesigning their AI operating model and sequencing investments today, based on UST's 20+ years of applied AI engineering, modernization, and digital transformation across global insurers.

You'll learn how leaders are:

	Modernizing their data architecture		Designing responsible AI guardrails
	Transforming core workflows		Achieving measurable gains in cycle time, accuracy, LAE, trust, expense ratio and customer satisfaction

If you're ready to move from experimentation to enterprise acceleration, this is your AI flight plan for scaling AI across claims, underwriting, operations, and cyber in the next 12 to 18 months.

The AI insurance flight plan

How core functions create lift-off

AI only transforms insurance when four core business domains rise together. This paper discusses each in depth.

Claims

Underwriting

Operations

Intelligent enterprise infrastructure

Individually, each domain drives efficiency. Together, they generate enterprise-wide lift by strengthening the decisions that connect these functions, not just the workflows inside them.

Most insurers still plan AI the way they plan traditional IT: as upgrades inside individual departments, not as an operating model that spans the enterprise. That approach guarantees slow impact.

> AI fails when insurers modernize functions.
> AI scales when insurers modernize decisions.

Most AI initiatives in insurance fail not because the models are weak, but because modernization stops at the function. Claims, underwriting, and operations evolve in isolation, while the decisions that connect them remain fragmented.

AI scales only when insurers modernize decisions, not just functions. Real impact comes from redesigning how decisions flow across the enterprise and embedding AI into the operating model, not layering it onto individual teams.

Most carriers plan AI like this:

- Scattered pilots
- Department-level ownership
- No shared data
- Weak governance
- Incremental ROI
- Slow adoption
- Improvements that never move the combined ratio

AI leaders plan like this:

- Unified data layer powering the same signals into claims, underwriting, operations, and cyber across-functional operating model for AI that aligns business, IT, and risk in one direction
- Enterprise governance acts as the “control tower,” accelerating safe deployment instead of blocking it
- Composable, reusable AI components that cut build time from months to weeks.
- Clear sequencing of value across claims, underwriting, ops, and cyber. Bringing gains in one area to improve accuracy and decisioning in another.
- Performance measurement connected to loss ratio, LAE, hit ratio, cycle time, expense ratio — the real business metrics

Insurance claims

Where AI delivers its fastest, clearest ROI

Claims are almost always the first-place insurers to see measurable AI value.

WHY?

Because claims processes are high-volume, document-heavy, workflow-driven, and strongly tied to both cost and customer experience. But that's not why claims matters most in the AI flight plan.

Claims matter because it is where the most consequential decisions are made—decisions that directly shape loss adjustment expense, indemnity accuracy, customer trust, and downstream underwriting performance.

The real opportunity isn't automating tasks.It's redesigning how claims decisions flow from FNOL to settlement and how those decisions inform the rest of the enterprise.

FNOL-to-resolution automation
By standardizing intake and early classification, insurers create consistent decision signals that downstream reserving, fraud, and operations can trust.

Damage estimation and severity scoring
By generating objective severity signals early, claims decisions become more predictable and defensible across reserving and litigation workflows.

Fraud detection and anomaly analysis
By correlating claims behavior with policy, identity, and cyber signals, insurers improve fraud decisions without slowing legitimate claims.

Intelligent reserving
By continuously updating reserves based on real-time claim signals, insurers reduce leakage and improve financial accuracy.

Subrogation prioritization
By identifying recovery potential earlier, claims decisions influence profitability well beyond the claims function itself.

Insurance claims

CASE STUDY

Claims business impact in action

A global claims management and insurance technology provider partnered with UST to modernize a legacy claims processing platform after an acquisition.

UST redesigned claims decision flow using real-time automation and straight-through processing, reducing manual effort and increasing scalability in a high-volume environment.

80%
faster claims processing cycles

250%
Lower processing cost

15%
of claims handled without adjuster involvement

Why this matters: Claims ROI is driven by decision flow redesign and operational readiness, not isolated automation.

Read the whole case study here.

Insurance claims

How leading insurers operationalize AI in claims

- **A unified claims data layer** that brings together structured and unstructured data for real-time decisions
- **AI embedded into core claims moments** including FNOL, fraud detection, routing, and reserving
- **Claims insights shared upstream** to improve underwriting risk selection and pricing discipline
- **Explainability built into claims decisions** to meet regulatory and audit expectations
- **Performance visibility tied to claims outcomes** including cycle time, leakage, LAE, and severity accuracy

UST's engineering-first approach turns early claims wins into enterprise lift by connecting data, workflows, and governance across the entire value chain — ensuring that every improvement in claims strengthens performance in underwriting, operations, and cyber.

Insurance Underwriting

Precision accelerates when connected enterprise-wide

The insight leaders act on:

Underwriting achieves peak performance when connected to the intelligence flowing from claims, operations, and cyber. But most carriers still optimize underwriting in isolation — improving intake, not improving decisions. The best performing carriers gain advantage by turning underwriting into a real-time, data-rich, decision-optimized discipline that continuously learns from downstream outcomes.

- **RISK SEGMENTATION AND SCORING**
  AI creates dynamic scoring models using internal + external data and adjusts scores as new claims and exposure patterns emerge.
- **SUBMISSION SUMMARIZATION (GENAI)**
  Automating intake while eliminating manual review bottlenecks so underwriters focus only on high-impact decisions.
- **APPETITE ALIGNMENT**
  AI identifies high-fit submissions, increasing hit ratios by matching risk patterns to profitability thresholds, not just rules.
- **BROKER AUTOMATION**
  Natural-language interfaces support faster response times and reduce the back-and-forth that slows placement.
- **STRAIGHT-THROUGH PROCESSING (STP)**
  Automating low-complexity underwriting with 90–95% accuracy while ensuring human review only where judgment truly adds value.

Insurance Underwriting

The power of connected data

GenAI summarization alone doesn't transform underwriting. The real shift comes when underwriting models learn from claims intelligence—severity trends, fraud indicators, subrogation outcomes, leakage patterns, and litigation risk.

Underwriting accuracy isn't limited by underwriting data — it's limited by disconnected enterprise data.

This is where underwriting shifts from static assessment to living risk intelligence.

This improves:

- Risk quality
- Loss ratio
- Portfolio mix and long-term profitability
- Expense ratio
- Pricing accuracy Hit ratio
- Time to quote

Insurance Underwriting

How leading insurers operationalize AI in underwriting

- **A connected underwriting data foundation** combining claims history and external risk data
- **Straight-through processing for low-complexity and renewal business** to improve speed and capacity
- **Broker workflows powered by decision-ready data** to reduce friction and rework
- **Ongoing model monitoring** to manage drift, fairness and regulatory alignment
- **Explainable risk scoring** that meets audit and compliance expectations

UST applies domain-first underwriting expertise to ensure insurers sharpen decisions, increase quote throughput, and improve portfolio profitability by ensuring underwriting intelligence is fully connected to the rest of the enterprise.

Insurance Operations

The engine that turns AI potential into enterprise performance

Operations determine whether AI scales or stalls. Manual work, slow handoffs, legacy rules, and fragmented systems prevent AI from being acted on at scale.

AI does not fail because models are weak. It fails because operations are not built to absorb new intelligence. When workflows and controls stay the same, AI stays stuck in pilots. When operations are redesigned around AI-driven decisions, results show up in cycle time, cost, and service consistency.

Why this matters to COOs and CIOs

Operations sit at the intersection of technology modernization, data flow, compliance, customer experience, and execution. This is where AI ambition meets enterprise reality and where misalignment quietly erodes performance.

Leaders who succeed treat operations as the backbone of their AI operating model, not the last mile of delivery.

If operations stay the same, AI remains a pilot.

Where operational gaps appear:

- Manual policy servicing
- Fragmented billing workflows
- Slow compliance processes
- Limited automation across endorsements, renewals, and service
- Siloed contact centers with high call volume
- Inconsistent processes that prevent AI outputs from becoming business actions

AI-enabled operations enable:

- End-to-end workflow automation across policy, billing, service, and compliance
- Agentic orchestration using systems that plan, decide, and act without humanhandoffs across multiple tasks
- Productivity lift, often 20–40%
- Reduced operational costs
- Fewer service defects and predictable cycle times
- Improved customer experience through consistent service execution

Insurance Operations

How leading insurers operationalize AI in operations

- **Clear identification of workflow bottlenecks** where automation and AI can remove friction end to end
- **Agentic orchestration across service and billing** to coordinate decisions, handoffs, and exceptions
- **Modern workflow platforms** that replace brittle, rules-only legacy systems
- **Real-time operational visibility** to monitor performance, exceptions, and AI-driven decisions
- **Shared COO and CIO alignment on sequencing and ROI** so operations are ready before AI scales

UST builds the adaptive operational backbone required to scale AI quickly and safely, ensuring that every investment in claims, underwriting, and cyber translates into tangible enterprise performance.

Insurance Enterprise AI Foundations

The secure, governed, and scalable core insurers need for AI at scale

AI at enterprise scale requires a different foundation than traditional systems. Once AI moves into production, it operates continuously, influences financial outcomes, and interacts with core processes in real time. That changes the requirements for security, governance, and architecture.

Foundations built for static, human-driven systems cannot support this shift. AI demands machine-speed controls, governance embedded in runtime behavior, and architectures designed for continuous decisioning.

Leading insurers address this by treating cybersecurity, governance, and modern architecture as a single system. When unified, AI can be deployed safely, trusted by the business, and scaled across the enterprise without introducing new risk.

Cybersecurity:
Protecting decisions, not just systems

AI introduces new risk because it directly shapes claims, pricing, and fraud decisions. These risks extend beyond traditional cyber threats.

Key exposures include:

- Model manipulation and data poisoning that alter outcomes
- API misuse and identity spoofing at machine speed
- Leakage of sensitive information from AI outputs

As cyber and fraud converge, insurers must treat AI models as critical assets. This requires access controls, continuous monitoring, and integrity checks built into decision workflows.

Core insight: AI security protects the decision layer that shapes financial performance.

Insurance Enterprise AI Foundations

Governance and responsible AI:
A repeatable, regulator-ready model pipeline

Many insurers still treat governance as documentation. Leading insurers treat it as a production system that determines how many AI models can safely run in production.

Leading insurers standardize:

- Produces real-time regulatory evidence
- Tracks lineage, data sources, fairness tests, and model versions
- Clarifies decision rights across legal, compliance, risk, and IT
- Treats drift as a business and regulatory trigger
- Reduces rework by involving critical teams early

AI governance defines how models are approved, deployed, monitored, and audited across their lifecycle.

Core insight: Good governance accelerates safe deployment — it doesn't slow it down.

Data, architecture, and operating models:
The technical spine for consistency and reuse

Data quality matters, but it is not the core constraint. The real blocker is rebuilding pipelines, features, and monitoring for each new use case, which drives cost and slows delivery.

Leading insurers treat AI as an engineering discipline and standardize:

- Decision-ready data layers
- Real-time data pipelines
- Containerized model environments
- API-first integrations
- Automated deployment and monitoring

Architecture is now a regulatory asset. Explainability, lineage, and auditability must be built into workflows from the start, not added later.

Core insight: AI scales through reuse and consistency, not through more data scientists.

Insurance Enterprise AI Foundations

Enterprise-level performance indicators

Leading carriers experience:

- Faster and more predictable claim handling
- More accurate and explainable underwriting decisions
- Lower operational effort through automation and orchestration
- Reduced leakage from consistent severity scoring, reserving, and fraud detection
- More reliable forecasts driven by current data and monitored models
- Higher service consistency with fewer manual escalations
- Greater employee productivity as routine tasks are automated or assisted

These outcomes reflect a system working cohesively, not isolated wins.

The maturity path

Insurers typically progress through four stages:

1 **Pilot**
Small, isolated use cases with limited visibility.

2 **Production**
Models deployed in live environments with basic monitoring.

3 **Performance**
Connected workflows, reusable components, and measurable improvements across functions.

4 **Autonomous**
Agentic operations with real-time updates, dynamic routing, and continuous optimization.

Insurance Enterprise AI Foundations

How insurers progress through each stage

PILOT → PRODUCTION

- Strengthen data flows
- Establish oversight mechanisms
- Standardize deployment basics

PRODUCTION → PERFORMANCE

- Connect intelligence across claims, underwriting, cyber, and operations
- Reuse shared components like features, pipelines, and monitoring
- Apply governance and drift controls consistently

PERFORMANCE → AUTONOMOUS

- Introduce agentic workflows
- Adopt event-driven data and decisioning
- Enable continuous system-level optimization

THE UST ADVANTAGE

As maturity increases, insurers gain visibility into decision quality, leakage risks, fairness indicators, model health, and compliance alignment—insights that were previously inaccessible.

UST supports this progression through engineering-led modernization, responsible AI governance, and reusable components designed for enterprise scale.

Insurance Enterprise AI Foundations

What leading insurers put in place at their organizations

- **Workflow bottlenecks identified end to end**, where automation and AI remove friction
- **Agentic orchestration across service and billing** to coordinate decisions, handoffs, and exceptions
- **Modern workflow platforms** replacing brittle, rules- only legacy systems
- **Real-time operational visibility** into performance, exceptions, and AI-driven decisions
- **Shared COO and CIO alignment** on sequencing and ROI so operations are ready before AI scales

UST builds the adaptive operational backbone required to scale AI quickly and safely, ensuring that every investment in claims, underwriting, and cyber translates into tangible enterprise performance.

Your next steps

A practical flight plan for 2025–2026

Insurers that scale AI don't start with more pilots.

They start with structured sequencing, clear governance, and engineering-first foundations.

This roadmap provides both near-term momentum and long-term enterprise lift.

90-day quick-win plan

- Conduct enterprise AI readiness assessment
- Identify top 3 high-impact use cases tied directly to business KPIs
- Stand up a unified model governance framework
- Modernize essential data flows
- Launch proofs that demonstrate measurable business impact

6–12-month transformation blueprint

- Deploy AI across claims, underwriting, ops, and cyber workflows
- Build composable, reusable AI components for faster delivery
- Stand up an enterprise AI operations model across business, tech, and risk
- Expand data platform maturity with real-time pipelines and observability
- Integrate agentic workflows where automation and decisioning intersect

Build vs. buy guidance

Build when

- Proprietary risk models or decision systems offer differentiation
- Core IP strengthens competitive advantage

Buy when

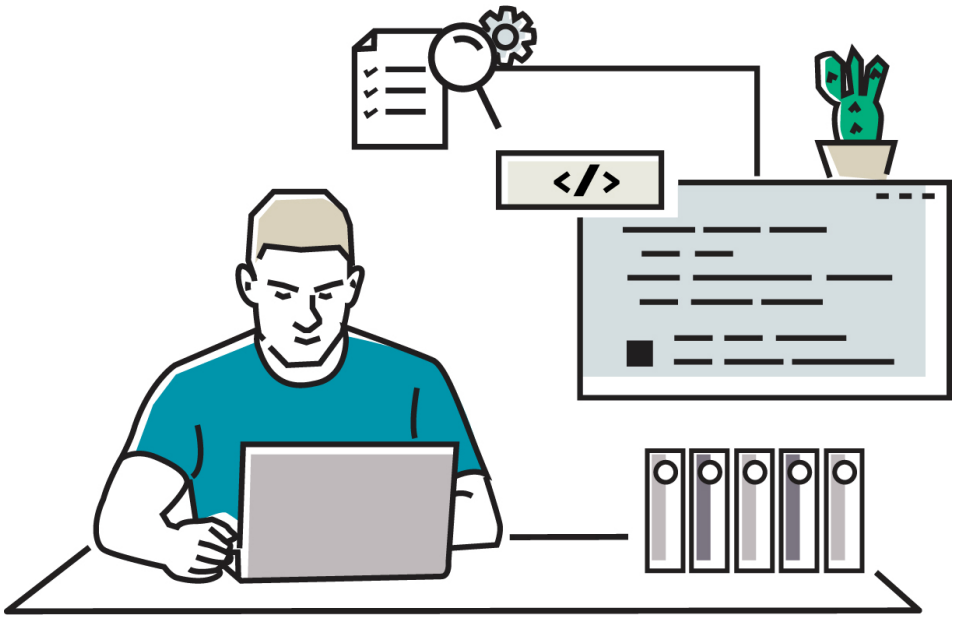
- Speed to value matters
- Workflow automation is standardized and repeatable

To escape pilot purgatory, insurers must govern effectively, connect workflows, modernize data pipelines, measure ROI, and sequence value logically. Enterprise sequencing ensures low-risk, high-speed scale, and UST provides engineering expertise, AI capabilities, and governance frameworks needed to turn ambition into measurable results.

Why insurers choose UST

Carriers partner with UST because we deliver:

- 20+ years of applied AI and engineering
- Deep domain expertise across claims, underwriting, operations, cyber
- Proven modernization and transformation outcomes
- AI accelerators that reduce time-to-value
- Responsible AI frameworks built into every deployment
- End-to-end partnership from strategy → engineering → compliance



Your AI flight plan starts here

The tipping point is here—pilots and incremental improvements won't win the next decade. Carriers that scale AI intelligently across claims, underwriting, operations, and cybersecurity will lead.

Take off with UST.

Turn scattered experiments into measurable enterprise performance with our engineering expertise, domain knowledge, and responsible AI frameworks.

Start your transformation today.
Visit ust.com/en/insurance

Together, we build for boundless impact

Since 1999, UST has worked side by side with the world's best companies to make a powerful impact through transformation. Powered by technology, inspired by people, and led by our purpose, we partner with our clients from design to operation. Our digital solutions, proprietary platforms, engineering, R&D, products, and innovation ecosystem turn core challenges into impactful, disruptive solutions. With deep industry knowledge and a future-ready mindset, we infuse expertise, innovation, and agility into our clients' organizations—delivering measurable value and positive lasting change for them, their customers, and communities around the world. Together, with 30,000+ employees in 30+ countries, we build for boundless impact—touching billions of lives in the process.

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