Whitepaper

Catastrophic Risk Solution

Agentic AI for Insurance at Enterprise Scale

Xebia.com

> **“Xebia’s Catastrophic Risk Solution redefines how insurers manage catastrophic risk; deploying governed, agentic AI across the entire claims lifecycle.”**
>
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> Insurance Industry

Catastrophic events are no longer rare — they’re the new normal. Global insured CAT losses have exceeded $100B annually for five years, with Q1 2025 alone surpassing $50B. Traditional claims processes built on spreadsheets and basic automation can’t keep pace.

Policyholders demand faster, fairer outcomes. Regulators require explainability and traceability for every AI-driven decision.

Built with Microsoft, Google Cloud, AWS, and Databricks, this solution turns static risk assessment into real-time, intelligent underwriting and claims handling.

Key Outcomes (bullet style):

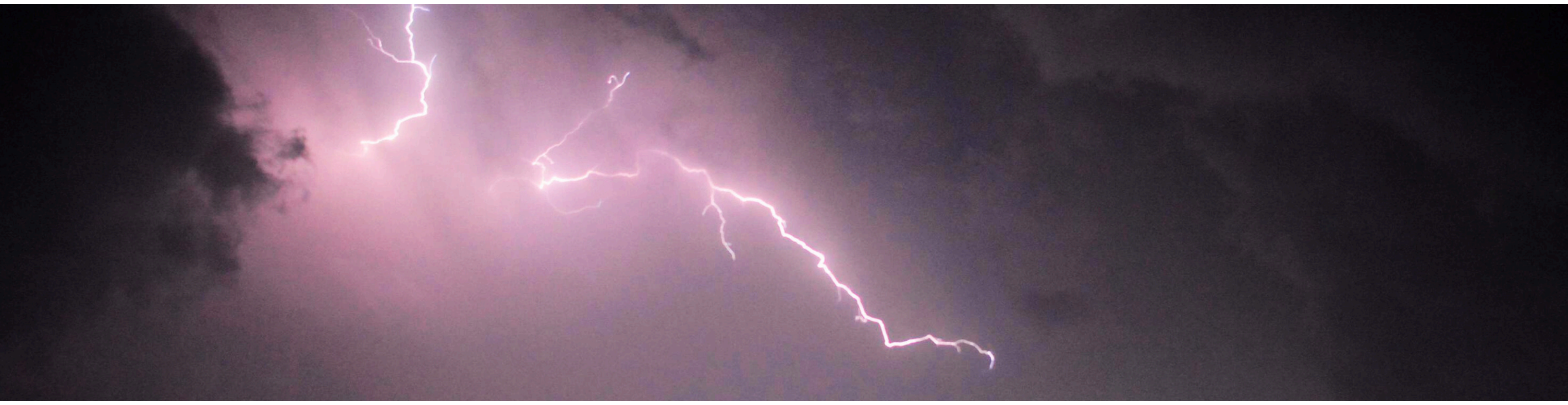
- 45% faster claim cycles
- 25% reduction in supplements
- +20–25 NPS points in customer satisfaction

Business Imperative

Insurers face two converging forces:

01. **Policyholder Demand** — Every hour matters in a catastrophe. Customers expect immediate, transparent communication and resolution.

02. **Regulatory Mandate** — EIOPA and NAIC require explainable, auditable AI decisions. Dashboards and RPA lack the transparency regulators demand.



Why This Matters

Nearly half of all property claims in 2023 were catastrophic. Climate-driven events are accelerating. Insurers who delay transformation face:

- Longer claim cycles
- Higher litigation risk
- Regulatory penalties
- Competitive disadvantage

The Xebia Solution

5 Key Control Towers Power The CatRisk Solution

01. Peril Intelligence

Rapid flood, wind, and wildfire mapping via satellite data.
Impact: 45% faster hurricane claim cycles.
Benefit: Faster FNOL; reduced backlog.

02. Coverage and Clause

Automated clause alignment & ambiguity alerts.
Impact: 20% reduction in post-CAT litigation.
Benefit: Lower legal cost; clearer communication.

03. Severity & Access

Aerial imagery combined with IoT for quick triage.
Impact: 30% fewer onsite adjuster visits.
Benefit: Faster estimates and safer operations.

04. Variance & Indemnity

Real-time monitoring vs. benchmarks.
Impact: 15–25% supplement reduction.
Benefit: Reduced leakage; stronger predictability.

05. Recovery & Community

Automated subrogation and vendor escalation.
Impact: 8–12% loss recovery improvement.
Benefit: Stronger bottom line; community transparency.

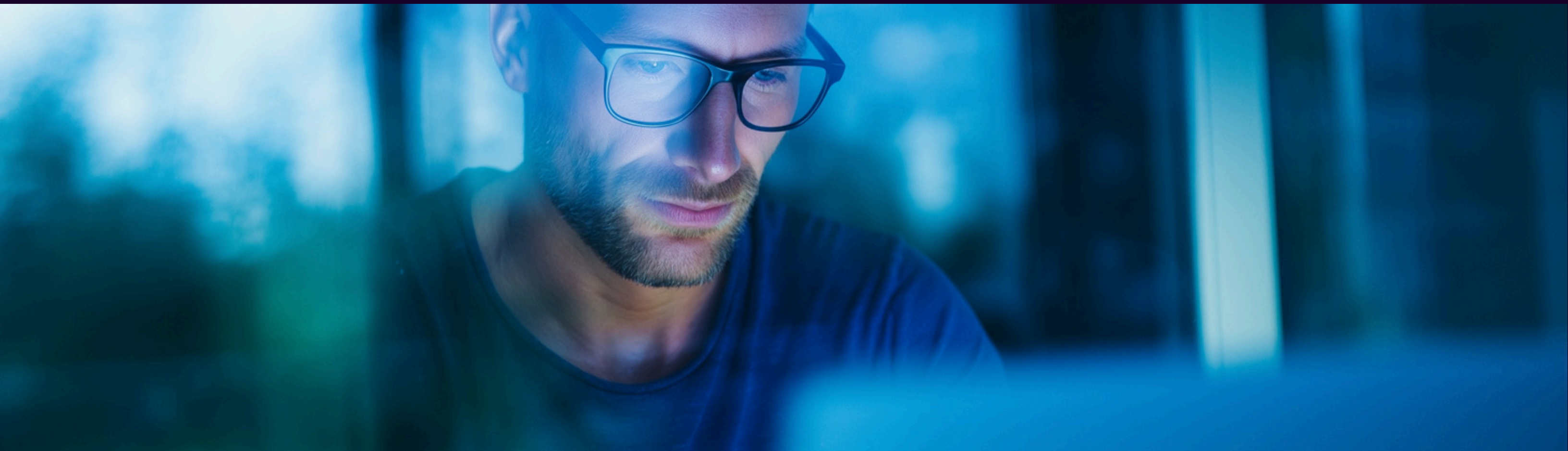
Agent Blueprint Across the Lifecycle

Modern claims automation fails because it tries to bolt AI onto fragmented workflows. Xebia's approach does the opposite: we align autonomous agents directly to the natural rhythm of the claims lifecycle. Each agent takes on a specific role, is governed by explicit boundaries, and hands off seamlessly to the next stage with a full evidence-backed rationale.

Activation Agents: CAT Signal Ingestion & Surge Protocol
Activation Agents continuously ingest external signals—NOAA, FEMA, satellite feeds, IoT sensors, weather alerts—and automatically trigger surge protocols the moment a CAT footprint is detected.
What this solves: Most insurers lose 48–72 hours in the early-motion window after an event.

How it helps:

- Activation Agents pre-build claim lists, severity predictions, and outreach queues before your adjusters even log in.
- They orchestrate digital triage immediately, routing claims based on location, peril, and material exposure.
- What Xebia delivers: A fully instrumented CAT watchtower with pre-configured peril models and confidence thresholds tuned to your regions and books of business.



FNOL Agents: Normalize, Validate, Prioritize

FNOL today is messy—unstructured media, incomplete forms, inconsistent terminology, and multiple intake channels. FNOL Agents clean that up instantly.
What they do:

- Normalize FNOL data across voice, text, photos, and PDFs
- Validate policyholder identity and metadata
- Auto-prioritize claims using geospatial severity indicators
- How it helps: 40–60% of downstream claim cycle time is dictated by FNOL quality. FNOL Agents standardize intake at scale, reducing human rework and giving adjusters clean, structured starting points.

What Xebia delivers: A canonical FNOL schema, ingestion pipelines, and real-time confidence scoring that integrates into your existing claims system.

Coverage Agents: Clause Retrieval with Explainability

Coverage interpretation is where insurers face the greatest litigation risk. Our Coverage Agents retrieve, read, and interpret the precise clauses applicable to each claim—while generating a regulator-ready trace explaining why each clause was applied.

How it helps:

- Eliminates ambiguity spikes after large CAT events
- Ensures alignment with underwriting intent
- Improves consistency across large networks of third-party adjusters
- What Xebia delivers: Coverage agents powered by clause embeddings, retrieval-augmented reasoning, and a full explainability layer aligned to NAIC and EIOPA guidance.

Severity Agents: Imagery, Materials, and Cost Fusion

Adjusters often wait days for site access. Severity Agents collapse that timeline.
How they work:

- Combine aerial imagery, ground photos, sensor data, permit records, and materials databases
- Produce a first-pass severity estimate within minutes of FNOL
- Flag cases requiring physical inspection or human escalation
- How it helps: Severity bands can be set to match your appetite—automated for small claims, hybrid for moderate losses, and escalated for complex perils.

What Xebia delivers: A multimodal estimation engine with configurable cost libraries and hazard-specific logic.

Payout & Subrogation Agents: Controlled Execution

These agents manage the most sensitive step—money movement—under strict governance.
What they do:

- Ensure payouts match coverage, limits, and benchmarks
- Build subrogation evidence packs automatically
- Monitor variance and indemnity to reduce leakage
- How it helps: Supplements are cut by up to 25%, and subrogation recovery improves because evidence is captured up front instead of after-the-fact.

What Xebia delivers: A safe payout execution module, autonomy guardrails, and subrogation templates ready for legal and regulatory review.

S**ervice Agents: Proactive Policyholder Communication**

Where insurers still lose policyholder trust today is communication. Service Agents fix that by orchestrating timely, accurate, and compliant updates.

What they do:

- Generate personalized updates for policyholders
- Communicate next-best-actions
- Ensure messaging is consistent with regulatory disclosures
- How it helps: NPS improvements of 20–25 points come largely from improved communication—not just faster payouts.

What Xebia delivers: A regulated communication engine that integrates with email, SMS, portals, and call center tooling

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The Claims Evidence Graph: Rooting Every Decision in Proof

At the core of the system is Xebia's Claims Evidence Graph—a continuously updated, auditable map of every claim entity and the relationships between them.

What it solves: Today, most insurers have evidence scattered across systems, making it impossible to produce a defensible audit trail on demand.

How it helps:

- Every agent action is grounded in specific evidence
- Regulators get transparent, traceable reasoning chains
- Adjusters and supervisors instantly see why the model made a recommendation
- It eliminates the "black box" problem that undermines trust in AI systems

What Xebia delivers: A standardized ontology, ingestion pipelines, and storage blueprint mapped directly to common claim, policy, and vendor systems.

Autonomy, Governance, & Risk Management

Agentic AI is only safe when autonomy is earned—not assumed. Xebia applies a maturity model (L0–L3) where each claim type and peril must "graduate" based on proven evidence and accuracy.

Why it matters: Regulators are already signaling that blanket automation will not be acceptable. Controlled autonomy is the future.

The Levels

- L0 – Shadow Mode: Agents observe and generate rationale without taking action.
- L1 – Recommendation: Human-in-the-loop with structured review.
- L2 – Controlled Execution: Agents act autonomously but only within predefined boundaries (coverage bands, severity thresholds).
- L3 – Safe Auto-Execution: Reserved for simple, repetitive claim types with statistically validated accuracy.

What Xebia delivers:

- Autonomy and risk scoring framework
- Human-in-the-loop interfaces
- Red-team testing for hallucination, bias, and drift
- Documentation aligned to NAIC & EIOPA for defensibility

Why Xebia?

Insurers choose Xebia because we go beyond proofs-of-concept, we deliver governed, production-grade systems built for real-world CAT volatility.

What sets us apart:

- Measurable Outcomes: 45% cycle time reduction, 25% fewer supplements, 12% more recoveries.
- Regulatory Fit: Governance and evidence frameworks mapped directly to NAIC/EIOPA benchmarks.
- Data Foundation: Proprietary Claims Evidence Graph eliminates fragmentation.
- Scalable Execution: We've rolled out agent-based systems across regions, lines of business, and legacy estates.

Most importantly: We focus on safe adoption, not just technical capability. Your adjusters, compliance teams, and regulators get what they need to trust the system before it ever scales.

The industry is shifting from reactive, human-only workflows to governed, agentic execution. The insurers who modernize now will set the new standard in fair outcomes, resilience, and customer trust.

Xebia stands ready to deliver the full lifecycle architecture, evidence models, agents, governance, and rollout, so you can move confidently, safely, and faster than the market.

Abhishek Dwivedi
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Contact Us

If you are interested in learning more about how Xebia can transform your digital transformation journey, please visit Xebia.com to visit our Contact Us form.

Shaping Tomorrow
with AI Today

About Xebia

Xebia is a global leader in IT consulting, software engineering, and training. With over 25 years of experience and a team of 5,500+ professionals across 16 countries, Xebia specializes in Artificial Intelligence, Data and Cloud, Intelligent Automation, and Digital Products and Platforms. With a strong focus on engineering excellence and a people-first culture, they equip organizations to apply emerging technologies that accelerate business innovation and drive sustainable competitive advantage. Xebia leads with a responsible and human-centric approach to AI, ensuring organizations shape a better tomorrow for all.