

cognizant®

Insurance Offering

Smart Insights builds trust: Transforming insurance with connected intelligencet

Over the past seven years, CAT ratios and reserve volatility in the U.S. P&C insurance industry have tripled due to intensifying natural catastrophes and growing claim uncertainty.

Cognizant's geospatial business intelligence framework transforms natural hazard insurance by enabling remote damage assessments within 24 - 48 hours of an event using satellite, aerial, and drone imagery. It eliminates the need for onsite visits and accelerates claim validation through advanced AI/ML models trained on historical claims, hazard footprints, and property attributes. These models work in tandem with expert input to deliver high-confidence assessments.

The framework leverages ESRI's ArcGIS for Spatial and Raster analytics and Cognizant's proprietary data services for address validation, claims prioritization, and peril-specific risk scoring. It supports proactive claim prevention, asset level risk modeling, and seamless API integration with claims platforms like Guidewire and Duck Creek. Designed for cloud agnostic deployment, the system enables scalable, real-time analytics across entire portfolios enhancing valuation accuracy, underwriting precision, and catastrophe resilience.

Automatically gather, process and prioritize your geospatial risks

Cognizant's geospatial intelligence framework automates the end-to-end risk assessment process by combining AI/ML, remote sensing, and digital twin technologies. A digital property twin creates a virtual replica of each insured asset, capturing granular details such as construction materials, roof condition, elevation, and surrounding environmental factors.

By integrating satellite imagery, IoT sensor data (non-contact sensors and onsite IoT Sensors), and historical claims, the system uses machine learning models to simulate how each property might respond to hazards like wildfire, alluvial flood, or wind. These models continuously learn from new data, improving accuracy over time.

This complex, multi-source data is processed through a federated, cloud-agnostic architecture that supports real-time ingestion, normalization, and scoring. The result is a clear, automated, and trustworthy view of property risk delivered in hours, not day empowering underwriters and claims teams to make fast, confident decisions.

Accurate, High-Fidelity Property Data Expands Capacity in Saturated Markets

Discrete property-level analysis empowers insurers to quantify risk with greater precision across both regional and portfolio scales. By aggregating detailed property data such as roof condition, elevation, and hazard exposure across extensive property datasets, actuaries can more effectively model risk distribution. This enables the identification of clusters of vulnerability and resilience within portfolios.

Enhanced segmentation allows insurers to strategically expand underwriting capacity in markets previously considered saturated or unprofitable. Instead of applying broad exclusions, insurers can selectively underwrite lower risk properties within higher risk zones.

This data driven approach improves portfolio balance, sharpens pricing strategies, and unlocks new growth opportunities while maintaining profitability and regulatory compliance.

Focus on high value risk mitigations independent of asset value

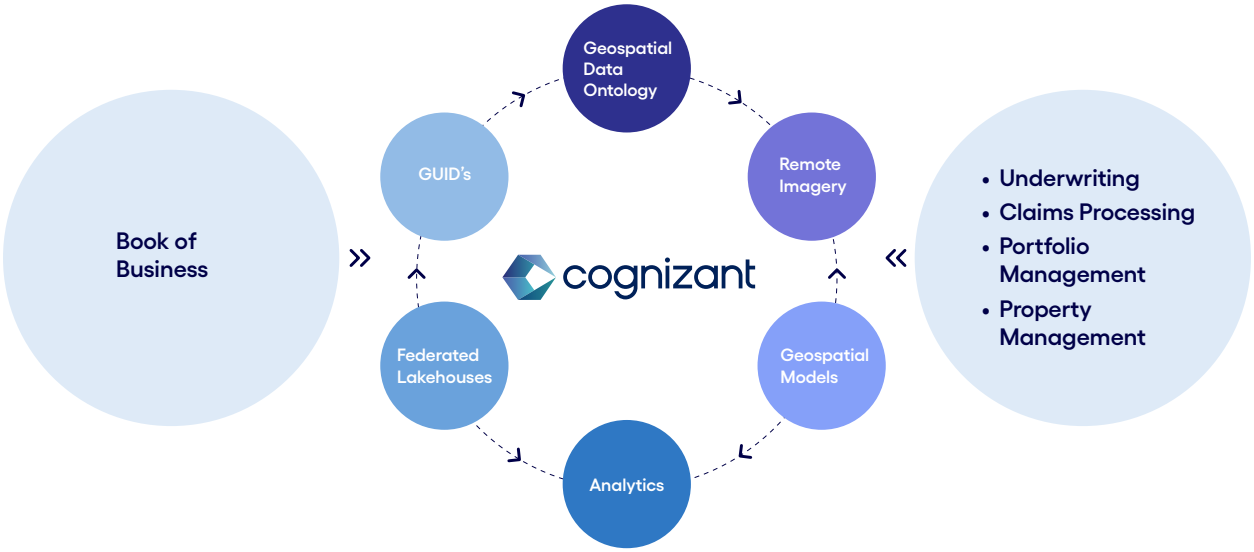
High resolution insights enable underwriters and risk engineers to pinpoint the riskiest properties and hazard exposures. This allows risk managers to allocate mitigation resources; such as roof reinforcements or defensible space where they will have the greatest impact on reducing aggregate risk.

By targeting interventions based on risk intensity rather than asset value, insurers can enhance portfolio resilience and optimize capital deployment. This precision-driven strategy minimizes losses and improves underwriting outcomes, supporting both operational efficiency and long term sustainability.

Solution features

Geospatial data and analytics

- Automatically gather data across the spectrum of public, private and Internal sources, maintaining data heritage and transparency
- Integrate existing internal, custom or 3rd party analytics into reporting dashboards actioned across the entire book of business
- Enable big-data environments for Data Scientists, or leverage vendor APIs at any maturity level
- Scale custom analyses across all assets; your data scientists define the logic; Cognizant automates the execution



Partner ecosystem

esri

AI ML CV and advanced insights

- Computer Vision detects risk relevant objects based on book of business (e.g., pallet storage, dumpsters, vegetation) that influence hazard assessments
- Agentic AI estimates risks using available data, even when inputs are incomplete
- A federated data model distinguishes assumptions from verified facts, preserving analytical integrity
- Machine Learning automates routine reporting (e.g., risk profiles, mitigation strategies), reducing manual review and approval cycles

Humanized processing pathways

- Transparent data pipelines enable human input to augment and correct automated algorithms, supporting efficiency, scalability, and precision

- Computer vision libraries evolve naturally through operational feedback, adapting over time
- Humans remain responsible for key insights and business decisions, while the pipelines provide additional situational awareness

Business action – seamless business integration

Business value comes from taking prioritized action —without it, large geospatial datasets are just overhead. Users need a ranked list of actions by risk mitigation value, not countless PDF reports.

Cognizant's Geospatial Digital Twin integrates with business process software to deliver instant intelligence directly to decision-makers.

Book of Business – Manage your entire book of business centrally for a unified view. Avoid departmental data silos and stay fully informed.

Data cleansing – Geospatial data quality depends on an accurate property model. For instance, one client found that 15% of property assets were missing valid street addresses; cleansing the data revealed significant hidden risks.

Live event interfaces – What is the 24-hour projected rainfall TIV within the hurricane cone? Use a live-event dashboard to answer property-specific capacity questions and track hazards.

Property dashboard – The foundational digital twin, enabling simulation of rainfall, winter storms, and power outages to assess main factors influencing portfolio risk.

Claims API's – Integrate with leading Claims Platforms via convenient API's, ensuring the latest business Intelligence Is utilized during claims processing.

These tools deliver geospatial intelligence directly within your existing business systems, enabling informed, data-driven decisions that reduce risk and drive market growth.

Geospatial value drivers

Property managers – Identification of current issues and assessment of potential future problems.

Underwriting – Evaluation of opportunities to expand hazard coverage in a market and identification of cross-liability hazards.

Claims processing – Analysis of whether before-and-after images can offer additional insights during claim evaluation.

Field assessments – Strategies to motivate policyholders to adopt mitigation measures before a loss and identify remotely detectable events to minimize onsite visits.

Portfolio managers – Assessment of locations with the highest risk and determination of which mitigation efforts provide the greatest return on investment.

Why Cognizant

Cognizant stand out because of its ability to unify deep domain expertise with scalable technology frameworks. In geospatial intelligence, Cognizant builds frameworks and platforms that fuse satellite, drone, and parcel-level data into actionable insights, enabling insurers and infrastructure clients to assess risk, optimize assets, and respond to environmental changes in real time. These insights are powered to environmental changes in real time. These insights are powered by robust process pipelines; massively parallel systems that combine AI, human curation, and federated data models to handle high-resolution inputs at scale. Cognizant's integration capabilities ensure these insights flow seamlessly into existing business systems, whether through SAP, Oracle, Salesforce, or cloud-native APIs. The result is a unified, intelligent ecosystem where data drives decisions, operations are streamlines, and innovation is continuous. This end-to-end strength from data capture to decision support makes Cognizant a trusted partner for organizations seeking precision, agility, and impact in complex environments.



Cognizant (Nasdaq-100: CTSH) engineers modern businesses. We help our clients modernize technology, reimagine processes and transform experiences so they can stay ahead in our fast-changing world. Together, we're improving everyday life. See how at **www.cognizant.com** or **@cognizant**.

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