PERSPECTIVES

BALANCING TECHNOLOGY AND EXPERTISE IN PROPERTY INSURANCE CLAIMS

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Insurance professionals should read this article to learn more about:

- Where technology creates the most value in property claims, and why expert judgment is still essential.
- Key risks of over-reliance on automation, and how specific technologies can fail without expert oversight.
- Regulatory and legal realities—carriers, not algorithms, remain responsible for claims decisions and must be able to defend methodologies and conclusions.

Legal advisors should read this article to learn more about:

- Why automated tools cannot provide defensible evidence in disputes, and carriers remain legally accountable for claim determinations.
- The known evidentiary limitations of imagery-based AI, automated weather tools, valuation algorithms, and others, as well as how misapplication of automated code reports, pricing tools, or estimate-review systems can create dispute exposure.
- Why expert judgment is essential for establishing defensible causation, valuation, and repairability assessments.

EXPERT VOICES

Travis Sommerfeld

Travis draws on his deep experience in damage quantification and construction estimating to explain why technology-driven tools in property claims must be paired with expert interpretation to ensure accuracy, defensibility, and real-world applicability. He illuminates the specific ways automation can misjudge site conditions, valuations, and repair scopes, underscoring the irreplaceable role of expertise in achieving reliable claim outcomes.

Executive Summary

The property insurance industry is undergoing rapid transformation as automation, data analytics, and AI are increasingly embedded in claims-handling workflows. These technologies deliver substantial value when applied to structured, repeatable tasks—such as intake, triage, measurement support, administrative checks, and large-scale pattern recognition—improving efficiency and consistency without compromising outcomes. However, technology cannot replace expert judgment. Many AI-driven tools rely on statistical inference, generalized assumptions, or indirect data sources, and therefore cannot evaluate site-specific conditions, defend conclusions in disputes, or adapt when assumptions break down. From a regulatory and legal standpoint, insurers remain accountable for claim outcomes regardless of the tools used, and the most effective claims strategies pair technology with early integration of qualified experts.

Introduction

The property insurance industry is undergoing a rapid and necessary transformation. Advances in data, automation, and artificial intelligence are reshaping how claims are received, triaged, and processed. Faster cycle times, reduced administrative burden, and improved consistency are real and meaningful benefits of this evolution.

At the same time, the industry must clearly understand the distinction between technology solutions and technology-enabled expertise. While automation is essential for efficiency, accurate claim outcomes still depend on judgment, context, and defensibility that come with expert insights, regardless of claim size or complexity.

Property damage claims often involve a wide range of technical considerations, including construction means and methods, sequencing, pricing assumptions, and field repair conditions. When that technical perspective is introduced early, claims tend to move faster, estimates are more accurate, and downstream friction is reduced. When it is excluded or introduced late, even routine claims can unnecessarily escalate to a dispute, resulting in rework, appraisal, litigation, and dissatisfied policyholders.

Understanding where technology adds value and where expertise remains essential has never been more important.

This article explores how technology is best applied in property claims handling, where it creates real value, and where reliance on automation alone can introduce risk. It also examines why integrating technology-enabled expertise early in the claims process reduces expense and leads to better outcomes for carriers and policyholders alike.

Where Technology Adds Value

Technology delivers the greatest benefit in property claims handling when applied to structured, repeatable, and process-driven tasks. In these areas, automation improves efficiency, consistency, and speed without compromising outcomes.

Examples of where technology adds clear value include:

» Claim intake and data organization – including ingestion of documents, photos, estimates, invoices, and correspondence.
» Triage and workflow routing – helping identify claim complexity, urgency, or escalation risk early.
» Measurement support and quantity takeoffs – reducing manual effort and improving baseline consistency.
» Administrative and compliance checks – such as formatting, completeness, and internal guidelines.
» Pattern recognition at scale – surfacing trends, anomalies, or recurring issues across large claim populations.

When applied correctly, technology reduces friction and allows claims professionals to focus on higher-value work. Automation becomes a force multiplier rather than a replacement, improving efficiency and consistency while allowing expert judgment to be applied where it matters most.

Technology clearly belongs in modern claims handling. Incorporating expert judgment early in the process reduces friction and avoids downstream escalation.

Where Technology Alone Falls Short

Challenges arise when technology is positioned not as an enabler of expertise, but as a substitute for it.

Many AI-powered claims tools are marketed as providing forensic-level accuracy, automated validation, or near-complete claim resolution without human involvement. In practice, these tools rely on proprietary algorithms, statistical assumptions, and indirect data sources that cannot fully evaluate context, loss conditions, or practical complexity.

Claim decisions must be explainable and supported by credible, verifiable intelligence. Unlike experienced professionals, algorithms cannot appear in court, explain methodology under cross-examination, or respond when assumptions break down.

Several recurring scenarios illustrate where reliance on automation alone introduces risk.

Aerial Imagery and AI-Powered Damage Detection

Satellite imagery, aerial photography, drone captures, and AI-powered damage detection technologies can provide valuable context before, during, and after a loss event. These tools help identify areas of impact, accelerate response, and support early investigation.

However, imagery-based AI analysis must be interpreted with care. While machine learning models can be trained to recognize patterns and classify likely damage, they rely on historical data and statistical inference rather than direct measurement of actual conditions. These tools are designed to support human-led assessments, not replace them.

Automated classifications can misinterpret normal wear, installation defects, or surface anomalies as storm-related damage or overlook damage that does not fit expected patterns. In addition, displayed imagery dates may reflect capture windows spanning multiple days, and stitched or processed tiles can obscure the actual capture moment at a specific property.

In disputed matters, imagery-derived outputs do not, on their own, provide a complete evidentiary basis. Without expert interpretation and corroboration, their value diminishes precisely when clarity is most needed.

Weather Verification and Event Analysis

Automated weather products are widely used to help identify potential loss dates, evaluate storm proximity, and support early claim triage. When applied appropriately, these tools provide useful directional insight and operational efficiency.

However, many automated weather reports are not storm reports and should not be treated as forensic conclusions. Such systems often rely on modeled outputs, repackaged datasets, or indirect sources that were never designed to support forensic analysis, expert testimony, or claim defensibility.

Even officially published weather data carries known limitations. Storm reports may underrepresent severity, misstate hail size, misplace geographic coordinates, or omit events entirely due to reporting gaps or observer variability. Peer-reviewed research shows that reported storm data does not always correlate reliably with radar observations or site-specific conditions.

Forensic analysis is fundamentally different from operational weather verification. Operational tools are designed for efficiency and warning validation, not for reconstructing conditions at a specific property. Forensic meteorology requires evaluation of representativeness, uncertainty, timing, and geographic relevance across multiple data sources. That evaluation cannot be automated and must be performed by a credentialed expert who can explain methodology and defend conclusions if challenged.

Automated weather tools remain valuable inputs when used as part of an expert-led analysis. Risk arises when they are positioned as definitive conclusions rather than preliminary indicators.

Rules-Based Estimate Review Tools

Automated estimate review tools are often marketed as a means to improve accuracy and reduce errors. When applied to estimates before work begins, they can be effective in identifying formatting issues, missing line items, or deviations from expected estimating conventions.

The challenge arises when estimates are submitted as invoices after work has already been completed. At that point, the document is no longer an estimate. It is a billing record that should reflect actual quantities, labor, equipment usage, and costs incurred. Automation alone cannot validate that reality.

Emergency mitigation work typically begins immediately, often before the carrier or policyholder has an opportunity to review scope or cost. As a result, the property owner and carrier assume the financial risk, while contractors may benefit from the lack of early oversight. This dynamic frequently leads to retroactive scope-based documents generated in estimating software, even though quantities and costs are already known.

In practice, carriers frequently pay for excessive equipment durations, premium line items without supporting documentation, or duplicative and unexpended labor charges layered on top of scope-based pricing. Automated tools can flag internal inconsistencies, but they cannot determine whether the work occurred as billed in the same way an expert can.

AI-Generated Repair Estimates and Unit-Cost Reliance

Standardized unit-cost pricing tools are widely used across the property claims industry, and AI-generated repair estimates are becoming more common. These systems promote consistency by applying pricing frameworks built on market surveys, historical data, labor assumptions, and statistical normalization.

While useful as reference points, unit-cost pricing reflects generalized assumptions rather than actual job conditions. Labor productivity, sequencing, access constraints, site conditions, and supporting tasks vary significantly from loss to loss. When those variables are not evaluated and adjusted by someone with estimating expertise, the resulting estimate can be materially inaccurate.

Many participants in the claims process are not trained estimators. They may not fully understand what is included or excluded in a given line item, how productivity assumptions are derived, or when unit prices must be modified to reflect actual conditions. Estimates can appear complete and structured yet still fail to accurately represent the true cost of repair.

Automation accelerates estimate generation, but it does not validate the scope's accuracy or the pricing's applicability. Estimating remains a discipline that requires judgment, context, and experience.

Building Code Reports Without Loss Context

Automated building code summaries are increasingly used to identify jurisdictional requirements based on property location. These tools can be helpful reference points for understanding which codes may apply.

Issues emerge when code summaries are treated as determinations rather than reference materials. Code applicability depends not only on location, which can change across city or county boundaries, but also on how the work is classified. Whether a scope constitutes a repair, partial replacement, or new construction often determines which provisions apply.

Automated code summaries do not evaluate damage conditions, scope sequencing, or existing-building provisions. They cannot determine how local building officials interpret or enforce code requirements in practice. When applied without expert interpretation, misapplication is common.

This often results in inflated scopes, unnecessary upgrades, or disputed positions on ordinances

and laws that escalate otherwise manageable claims.

High-Value Personal Property Valuation Technology

Automated valuation tools are increasingly used in markets where appraisal and pricing are complex and inherently subjective, including fine art and high-value collectibles. These tools typically rely on historical transaction data, such as auction results, trend analysis, and algorithmic modeling, to efficiently generate valuation ranges.

When used appropriately, these tools can support early-stage assessment and initial triage. They help surface reference points, identify outliers, and provide directional insight. However, automated valuations are built on patterns and generalized assumptions rather than the unique characteristics of individual items that materially influence value.

In the art market, for example, AI-driven models can struggle to interpret factors such as condition, rarity, provenance, and how a specific work relates to an artist's broader body of work. These elements often drive value but cannot be reliably inferred from sales data alone. While algorithms can detect trends across auction results, they frequently lack visibility into the private retail market, where galleries typically do not disclose transaction details.

Qualified appraisers, by contrast, apply professional judgment informed by firsthand inspection, subject-matter expertise, and industry relationships. They regularly engage with galleries, attend international art fairs and exhibitions, and can provide relevant pricing context when the valuation purpose is understood. This context is critical in high-value claim situations, where accuracy, defensibility, and credibility matter.

When automated valuation outputs are used without professional oversight, they risk producing misleading conclusions and contributing to improper valuations or claim settlements. This risk is particularly pronounced in scenarios subject to external scrutiny, such as estate planning, donation appraisals, or contested insurance claims, where value conclusions must be supported by recognized professional standards and expert analysis.

Automated valuation technology can be a useful input, but it is not a substitute for qualified human expertise. In high-value personal property claims, expert judgment remains essential to ensure valuations are accurate, defensible, and appropriate for the specific context of the loss.

Regulatory and Legal Reality

Across jurisdictions, regulatory guidance and case law reinforce a consistent principle. Insurers remain accountable for claim decisions and outcomes, regardless of whether analysis is generated internally or provided by third-party tools.

Technology can inform decisions, but responsibility does not transfer. When claims escalate to appraisal, arbitration, or litigation, conclusions must be explainable, methodologies must be testable, and assumptions must be defensible.

Automated tools cannot testify. Algorithms cannot explain their logic under cross-examination. Models cannot adapt assumptions when confronted with site-specific facts.

When claim determinations rely too heavily on automated outputs without expert oversight, disputes become more frequent and resolution timelines lengthen.

Conclusion

Technology is changing how property claims are handled, and many of those changes are necessary. Automation can improve efficiency, consistency, and speed when applied to the right parts of the process.

Claims, however, are still resolved in the field. Buildings are repaired under real conditions, not ideal ones. Assumptions do not always hold, and no two losses are identical. When expert judgment is removed or introduced too late, issues tend to resurface through supplements, appraisals, or disputes, often at greater expense.

Applying technology where it works best and engaging expertise early to supplement technology-enabled solutions both help to guide decisions before positions harden. When that balance is struck, claims are easier to resolve, outcomes are more consistent, and fewer disputes arise.

That balance, more than automation alone, is what will improve claims handling over time.

Acknowledgments

We would like to thank Travis Sommerfeld, Kurt Cutshall, Daniel Schreiber, Christian Trabue, and Nathan Heinlein for their valuable insights and expertise, which greatly assisted this research.

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