



How Advanced Technology Is Changing Restoration

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Introduction

Storms are larger. Fire seasons last longer. Geographic impact zones are expanding. Catastrophes now produce simultaneous losses across entire regions. Claims scrutiny continues to intensify.

Restoration firms are increasingly turning to technology to address these trends. Adoption of new tools is accelerating at an unprecedented pace, from drones to 360° cameras, 3D scanning, remote monitoring, AI-assisted documentation, and more.

Yet the real shift is not about the tools but about how leading restoration organizations are connecting technology

to their workflows and expertise.

Today, technology is transforming how restoration firms capture conditions, document project scope, validate mitigation, scale during disasters, protect data, and deliver defensible outcomes.

This white paper explores the forces driving technology adoption in restoration and the systems transforming project management and execution. It also outlines what clients should expect from a technology-enabled restoration partner as expectations around speed, transparency, and defensibility continue to rise.



The Forces Driving Technology Adoption

The race to adopt new technology reflects how firms recognize the need to build resilience, scalability, efficiency, and consistency into their workflows to respond to mounting operational and environmental pressures like these:

Increased Event Severity and Scale¹

Modern catastrophes require scalable inspection and documentation models. A firm responding to hundreds or thousands of properties must capture accurate data quickly without compromising quality. Manual documentation methods struggle to scale at this volume.

Rising Expectations for Defensibility²

Claims environments demand traceability; vague narratives and fragmented photo sets are insufficient to satisfy insurers and other stakeholders. Project documentation must withstand review from carriers, public adjusters, attorneys, regulators, and property owners.

Portfolio Consolidation and Multisite Ownership³

Commercial property ownership continues to consolidate: multifamily operators, industrial portfolios, healthcare systems, educational institutions, and retail groups increasingly manage large, geographically dispersed assets. These property owners expect standardized documentation across properties, centralized reporting, consistent mitigation standards, and portfolio-level visibility during major events.

¹ Climate Central. (2026, January 8). 2025 in review: U.S. billion-dollar disasters. <https://www.climatecentral.org/climate-matters/2025-in-review>

² Insurance Information Institute. (n.d.). Filing a business insurance claim after a disaster. <https://www.iii.org/article/filing-business-insurance-claim-after-disaster>

³ PricewaterhouseCoopers. (2025, December 16). Real estate and real assets: US Deals 2026 outlook. PwC. <https://www.pwc.com/us/en/industries/financial-services/library/asset-wealth-management-real-estate-deals-outlook.html>

The Technology Reshaping Restoration

Leading restoration firms are now working to incorporate multiple interconnected technology layers, including those listed on the next few pages. When these layers function together, they create a connected jobsite that supports speed, visibility, safety, and defensibility.

SPATIAL DOCUMENTATION AND EVIDENCE EXPANSION

Restoration begins with understanding conditions on-site. The accuracy and completeness of initial documentation directly influence scope development, estimating accuracy, and claim resolution. Fortunately, today's spatial documentation tools expand what is possible at the field level.



Geospatial Property Intelligence: High-resolution aerial imagery combined with AI-driven analysis allows clients to visualize disaster impact at the property level. Pre- and post-event imagery uploaded to secure AI platforms can automatically identify areas of damage, enabling early assessment even before physical access to the site is possible.

Drone-Based Inspections: Unmanned aerial systems allow teams to inspect roofs, façades, and elevated structures safely. High-resolution imagery delivers comprehensive visual evidence without exposing technicians to unnecessary risk.



360° Imaging and Immersive Documentation: Complete visual documentation reduces interpretation gaps between field teams, estimators, carriers, and property stakeholders. 360° cameras capture entire rooms or structures in a single pass, creating immersive visual records.

3D Scanning and Digital Sketching: Advanced scanning and digital sketch platforms support accurate measurement and floorplan development. Field measurements can flow directly into estimating systems.



Workflow Integration and System Connectivity

Disconnected tools create duplication, manual exports, and fragmented workflows. Data and technology deliver greater value in a connected ecosystem.

API Architecture and Data Portability:

Modern restoration operations depend on mature API layers that allow systems to communicate seamlessly. Tech forward restorers are pushing to structurally connect field capture tools, estimating systems, and reporting workflows. This layer determines whether technology scales cleanly as the organization grows.

- Alleviate redundant fields across platforms
- Avoid siloed data environments
- Add or replace tools without disrupting core workflows

Real-Time Information Flow: Restoration firms must be able to move, update, and enrich data while maintaining oversight of what enters and exits enterprise systems. Without that control, integration introduces risk. Optimal connected systems allow project data to move from field devices into estimating, project management, and reporting systems without manual transcription, so captured information becomes useful across the organization.

- Turn around estimates and approvals faster
- Gain real-time visibility into project progress
- Alleviate administrative burdens and rework

A graphic featuring two men in orange suits on the left. On the right, there are several floating digital screens and icons. One screen shows a chat interface with a 'Chat AI' label. Another screen displays 'AI' in large letters. There are also icons for 'DATA' and various data visualization elements like charts and lines. The background is dark with blue bokeh lights.

AI and Intelligent Automation

AI strengthens documentation workflows, accelerates administrative tasks, and enhances decision support without displacing professional judgment—so long as it is implemented using defined governance frameworks. Responsible AI deployment requires defined guardrails, controlled testing, and human oversight.

Restoration companies must define approved use cases for AI and ensure systems rely on high-quality internal data rather than open-source internet content. The focus for AI implementation should start with repetitive and manual tasks, reducing the administrative burden on team members and allowing them to direct their energy toward taking care of customers.

AI TOOLS UNDER DEVELOPMENT

Leading restorers are exploring AI capabilities that will further strengthen jobsite execution and catastrophe response such as these:

Smarter Job Sites and Triage

Support: AI systems analyze structured property data, such as building age, prior loss history, known environmental risks, and portfolio characteristics, to support faster assessment.

Predictive Equipment and Inventory Optimization:

AI-assisted monitoring tools analyze moisture trends, drying progress, and equipment usage patterns to inform deployment strategy.

Automated Estimating and Rules-Based Scoping:

AI-driven tools analyze damage photos, automate measurements, and apply rules-based pricing logic aligned with industry standards to expedite estimates and streamline claim review processes.



AI TOOLS ALREADY DELIVERING MEASURABLE VALUE AT ATI TODAY

While we continue to develop next-generation capabilities, we have already deployed AI tools that strengthen workforce training, communication, and operational efficiency across our company.



Workforce Training Platform: We have rolled out a nationwide training platform that gives field operators real-time access to company processes, technical standards, and industry best practices. Embedded AI functionality allows team members to ask specific questions and receive immediate, targeted guidance, supplementing our hands-on instruction.



Customer Care Documentation: Our Customer Care Center uses AI tools to document, summarize, and organize client communications. The system generates structured summaries and suggested response prompts, while trained professionals maintain full discretion over final communication, to accelerate response times.



AI Chatbot and Virtual Assistant: We have deployed a generative AI chatbot and virtual assistant across the company. Employees use this tool to access internal knowledge, locate resources, and navigate processes quickly, increasing our productivity and efficiency.



Internal Communications and Training Documentation: Our Training and Communications teams use AI to develop customized internal messaging, learning materials, and process documents, allowing us to create first drafts more quickly without sacrificing quality.

Disaster Tracking and Proactive Intelligence

Real-Time Alerts and Proactive Mobilization:

Customized alert systems notify leadership teams when defined thresholds are met, such as storm intensity, proximity to assets, and wildfire spread.

- Communicate with clients earlier to set expectations
- Deploy field teams faster
- Reduce stabilization timelines

Regional Impact Estimation and Resource

Allocation: Effective disaster tracking translates exposure data into operational strategy, delivering impact estimates by region.

- Anticipate potential claim volume
- Analyze expected damage types
- Accelerate response in high-impact areas with data-informed staging of personnel and equipment

Event Footprint Mapping Across Asset Portfolios:

Modern disaster intelligence systems provide real-time event data, such as storm paths, wildfire perimeters, flood zones, etc. as well as post-event visual damage assessments based on aerial imagery to inform disaster response across an organization's full asset inventory.

- Identify which assets fall in impact zones immediately
- Quantify exposure assessment portfolio-wide within hours of an event
- Prioritize inspection and response sequencing





Choosing a Technology-Enabled Restoration Partner

Advanced tools alone do not create an advantage. The value of technology in restoration depends on how it is implemented, governed, and embedded in operational systems.

For clients, a technology-enabled partner should deliver measurable improvements in speed, visibility, and defensibility while maintaining disciplined control over risk. Evaluating that capability requires looking beyond tool lists and marketing claims to how the organization addresses several structural friction points.

INTEGRATION

Technology should simplify the claim lifecycle, not complicate it. Disconnected tools create duplication, manual exports, and fragmented workflows. When field capture systems, monitoring platforms, estimating software, and reporting tools fail to communicate seamlessly, administrative burden increases, and documentation consistency suffers.

Strong integration reflects intentional system design. Mature API layers allow data to move, update, and enrich across enterprise systems. Real-time information flow between field teams, office operations, and stakeholders reduces delay and improves transparency.

Successful integration also depends on leadership discipline. The most effective restoration organizations align technology decisions with strategic vision while incorporating direct feedback from field teams. Technicians and project managers experience workflow friction daily so their insight shapes smarter integration choices that ultimately benefit clients.

ADOPTION

Technology delivers value only when it is embedded in daily operations. Organizations that treat technology as a core operational capability train consistently, reinforce documentation standards across regions, and deploy tools with defined use cases. Incremental adoption strengthens long-term success. Gradual deployment allows teams to see immediate value, refine workflows, and scale improvements methodically.

When technology adoption is disciplined, clients experience predictable documentation quality and consistent execution across branches and during catastrophic surge events.


SECURITY AND GOVERNANCE

Restoration involves sensitive property data, environmental readings, images, and claim documentation. Disciplined restoration companies define guardrails that determine how technology is used, who has access to data, and how outputs are reviewed and validated. Well-defined data governance frameworks address oversight of SaaS platforms, authentication controls, access management, and responsible AI deployment.

EXPLAINABILITY AND TRUST

Documentation must withstand scrutiny. Scope decisions, mitigation validation, and estimating outputs should connect to structured evidence. Timestamped imagery, monitoring data, version-controlled documentation, and traceable workflows strengthen defensibility.

AI introduces additional considerations. For example, subject-matter experts should review AI-assisted documentation and pricing logic before finalization, and estimating standards should reflect professional practice rather than automated assumptions. No matter how advanced the technology, complex negotiations, emotionally sensitive environments, and nuanced technical interpretation require human judgment.



The most capable restoration partners integrate technology into a culture of professionalism, where technology becomes a multiplier of competence rather than a substitute for it.



Conclusion

Restoration firms that connect technology with disciplined governance, thoughtful integration architecture, and experienced professional oversight will yield the best possible outcomes for clients.

Advanced tools alone do not define industry leadership. Sustainable progress comes from how technology is introduced, validated, and scaled in real-world operations. It requires robust use cases, strong API foundations, structured data governance, and a commitment to continuous improvement. Tyler Tanaka, Chief Technology Officer at ATI Restoration, put it this way:



Tyler Tanaka, CTO
ATI Restoration

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Technology advancement in restoration companies rarely occurs through a single, large-scale transformation. Business requirements evolve. Operational insights emerge during implementation. Early assumptions may shift.

Organizations that pursue timely incremental wins with technology build durable foundations. The most successful implementations begin narrowly, deliver value early, and expand strategically. A disciplined approach ensures technology aligns with evolving operational needs, but discipline cannot mean delay. Whatever technology is chosen must demonstrate speed to value: put to work quickly, with tangible business impact realized early.

I recommend seeking partners who start small, deliver value early on, and aim for incremental wins.

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With 70+ Locations Nationwide

ATI responds to major events and day-to-day
emergencies across the U.S.



 ATI Locations

 National Response Trailers



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