SHIFT

Precision recovery: how AI agents unlock the full value of water damage subrogation — UK Edition

Authored by Shift Technology | October 2026

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Executive summary

Water damage subrogation sits at the intersection of scientific complexity, jurisdictional variation, and operational inconsistency — and it remains one of the most undercovered categories in UK property insurance. The root cause of a water loss is rarely obvious. A burst pipe may trace to a manufacturing defect, a contractor's installation error, or a property manager's failure to maintain adequate heat. Each scenario carries a different recovery theory, a different evidentiary burden, and a different clock. Checklist-driven workflows are structurally incapable of navigating that complexity at scale.

AI agents transform water loss subrogation from a reactive, checklist-driven exercise into a precision recovery engine, and the operational and financial impacts cannot be ignored.

Bottom-line revenue gains: Directly reclaim indemnity to improve combined ratios and smooth macroeconomic or weather-related volatility.

Operational efficiency: Deliver up to a 50% to 80% gain in efficiency by automating routine data gathering, evidence-preservation correspondence, and recovery summary generation.

Staff augmentation and knowledge transfer: Systematically scale institutional subrogation expertise by serving as an embedded training and guidance tool. This upskills handlers, ensuring operational continuity despite organisational staff changes and the added complexity of operating across three UK legal jurisdictions.

Shift Technology's ARISE framework — introduced in our earlier white paper, ARISE: A standard framework for AI agent autonomy in insurance — defines five levels of AI agent capability: **A**nswers, **R**ecommends, **I**nitiates, **S**olves, and **E**xceeds. This paper applies that framework to water damage subrogation in the UK, using three claim scenarios.

The cases cover a London high-rise sprinkler system failure, a Manchester dishwasher leak, and a Cambridgeshire new-build water main failure. Each illustrates a different dimension of the subrogation challenge — and a different demonstration of what agents operating across the ARISE levels can achieve.

The inflection point for subrogation is now — embrace precision recovery and turn a historically laborious, reactive process into a strategic margin-stabilisation engine.

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1. The water damage subrogation challenge

In an era of macroeconomic volatility, insurers face a compounding challenge. The rising frequency and severity of weather-related losses, coupled with inflating material and labour costs, have placed severe pressure on combined ratios. Subrogation has become a core strategic pillar — a reliable mechanism for reclaiming indemnity and stabilising the balance sheet. Yet despite significant investment in analytics and AI, water damage subrogation remains a major operational challenge.

The reasons are structural. Water losses are dynamic, scientifically complex, and governed by overlapping legal and regulatory variables that defeat standardised procedures. Three failure modes recur across insurers of every size.

Water behaves unpredictably — and so must the investigation

The source, path, and duration of a water loss dictate entirely different investigative and recovery strategies. Successful subrogation demands a forensic mindset: the intellectual curiosity to look beyond the immediate failure and investigate systemic catalysts. Was the failure caused by a manufacturing defect, a localised pressure surge, improper installation by a third-party contractor, or a failure of a property manager's main? Without that investigative depth, subrogation teams consistently leave recoverable indemnity unclaimed.

The legal landscape is not one framework — it is three

The legal landscape is not one framework, it is three. A UK book of business is not governed by a single body of subrogation law: England & Wales, Scotland and Northern Ireland each have their own time-limit regime. In England & Wales, a missed deadline simply bars the remedy. In Scotland, the underlying obligation is extinguished entirely once the period has run, a materially harsher outcome that catches out teams applying English assumptions to a Scottish loss. Northern Ireland has its own separate rules again.

Layered on top of the jurisdiction question is the cause of action. Negligence, contract, product liability and the strict liability regime for water undertakers each carry a different trigger date and a different evidential burden. Keeping that matrix current, and applying it correctly and consistently across a high-volume, UK-wide caseload, is challenging as a manual workflow and limits the number of cases that can be pursued.

Weather events screen for human error

Catastrophic events such as freezing temperatures and torrential downpours are frequently classified by carriers as unrecoverable acts of God. This is a costly oversimplification. In reality, weather often acts as a catalyst that exposes underlying human error. A cold snap may cause a pipe to burst, but the root cause may be a building design defect, an installation that does not meet the Water Supply (Water Fitting) regulations, or a managing agent's failure to maintain adequate heating in common areas. Subrogation teams must look beyond the weather event to isolate the manufacturing defects, installation errors, and third-party negligence that exacerbated or caused the loss.

These failure modes compound each other. A team that lacks the investigative depth to identify a viable theory is poorly positioned to apply the correct jurisdictional framework and no amount of staffing investment solves the consistency problem at scale across three legal systems. That is the gap that agentic AI is built to fill.

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2. From detection to automated recovery: the ARISE framework applied

Shift's ARISE framework defines five levels of AI agent capability in insurance — Answers, Recommends, Initiates, Solves, and Exceeds — each characterised by the degree of human involvement required and the complexity of judgment the agent exercises independently. The table below provides a reference summary.

Unlike earlier-generation AI tools that generate an alert and wait for a handler to act, agents can understand high-level recovery objectives, plan multi-step investigative actions, apply the correct jurisdictional rules, draft and issue legal notices, evaluate counter-offers, and — at higher levels — execute the full recovery workflow without human touchpoints. The three claim scenarios below illustrate these capabilities in practice.

Table 1

The ARISE framework — reference summary

Level	Name	Definition	Efficiency gain
L1	**Answers**	The AI agent responds to direct questions, retrieving and synthesising relevant information from policy documents, claims records, and regulatory sources.	10%
L2	**Recommends**	The agent analyses the full situation — claim details, documents, jurisdiction — and recommends best next steps with clear rationale.	20%
L3	**Initiates**	The agent initiates all required checks, pre-fills decision parameters, and presents a fully validated action package ready for one-click human approval.	30%
L4	**Solves**	The agent acts end-to-end without human intervention, achieving 99%+ accuracy by applying contractual, regulatory, and insurer-specific logic consistently at scale.	50%
L5	**Exceeds**	The agent not only operates autonomously but surpasses the outcomes of the top 1% of human performers, proactively identifying process inefficiencies and deviating intelligently to optimise results.	80%

Table 2

Three water damage claims — ARISE level and agent outcome

#	Claim	Agent outcome	ARISE level
1	Faulty sprinkler system — London	Mis-mixed glycol antifreeze solution identified as root cause; full demand package and settlement negotiation	**L4 — Solves**
2	Dishwasher leak — Manchester	Cost-benefit analysis determines pursuit not economical; no pursuit recommendation issued	**L3 — Initiates**
3	Water supply failure — Cambridgeshire	Full autonomous recovery including settlement acceptance, fund allocation, and excess reimbursement	**L5 — Exceeds**

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3. Three claims, three agent examples

Claim 1: Faulty Sprinkler System — London

L4 — Solves

Incident: Incident: A newly built residential tower in London suffers severe water damage due to a burst wet sprinkler pipe.

Information assessment & fact-finding: The detection agent begins by querying the First Notice of Loss (FNOL) and available loss information to identify the involved parties, confirm the sprinkler is a wet or dry system, check for maintenance contracts, and review the managing agent's building management terms, citing all sources.

Proactive recommendations & external data integration: To dig deeper, the investigation agent advises follow-up questions regarding maintenance responsibility and prior repairs. The agent pulls in weather records around the date of loss and prioritises time-sensitive actions:

- Retaining all physical evidence (including a sample of the glycol solution if it is a wet system) and capturing pre-repair photo/video evidence.
- Assessing damages by exposure (buildings, contents, alternative accommodation) and auditing Proof of Loss accuracy.
- Retention of a specialist.
- The year of construction (YOC) was 2024.

Document & evidence initiation: Taking direct action,

- The agent automatically orders the London Fire Brigade incident report.
- Issues evidence-preservation letters to the building owner, managing agent, and sprinkler contractor.
- Analyses the liability theory to map out recovery strength by target.

Resolution: While the incident might be assumed to be a standard cold-snap pipe freeze with no recovery potential, the agent determines that an incorrectly mixed glycol solution allowed the sprinkler line to freeze and burst. Armed with this root cause, the demand agent

- Validates the recoverable damages.
- Applies the correct England & Wales limitation and liability framework against the target.
- Compiles a comprehensive subrogation summary.

The agent then analyses counter-offers from the target and recommends an optimal settlement strategy based on a cost-benefit analysis of negotiated resolution versus litigation.

ARISE Framework: L4 — Solves

A claim that a standard workflow would attribute to weather becomes a high-value recovery because the agent identifies the specific technical failure — an incorrect glycol solution mixture — responsible for the pipe burst. The agent autonomously pursues recovery with this supporting information.

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Claim 2: Dishwasher Leak — Manchester | **L3 — Initiates**

Incident: Dishwasher leak in a home located in Manchester.

Information assessment & fact-finding: The detection agent queries against FNOL data and facts as they become known to understand product detail, product age, repair history, and severity/scope of damage impact on next steps.

Proactive recommendations & expert retention: The investigation agent advises additional required information and prioritises next actions,

- Instructs the policyholder to obtain photos of origin.
- Instructs the policyholder to retain evidence and all parts if repairs are completed.
- Addresses damage and scopes mitigation needs.
- Analyses England & Wales time limits.
- Retains a water specialist.

Statutory notice & liability: The agent actively drafts and sends a notice letter to the manufacturer of the dishwasher. It performs the following analysis based on information as it becomes known:

- Checks the public product recall and alert listings on GOV.UK for a recall based on the known manufacturer and model, and no recall is found.
- Considers that a cause of action against the manufacturer is not time-barred.
- Considers that the damage severity is limited (approximately £8,000).

Resolution: The recovery agent compiles a comprehensive subrogation summary which is declined. The agent advises stopping pursuit: recognising the manufacturer is likely to require litigation, and with no product recall on record, the effort and cost associated with securing recovery are likely to exceed the actual recovery value.

ARISE Framework: L3 — Initiates

The agent builds the complete liability picture, runs the cost-benefit analysis, and presents a clear recommendation to close once negotiations fail. The examiner is expected to make the final decision. This is the ARISE L3 Initiates threshold: the agent prepares everything, the human approves.

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Claim 3: Water Supply Failure — Cambridgeshire | **L5 — Exceeds**

Incident: A house on a newly built estate in Cambridgeshire sustains water damage after a burst water main.

Information assessment & fact-finding: The detection agent begins by querying the First Notice of Loss (FNOL) and any other claim data to pinpoint the year of construction, identify the developer, pull scene photos, and check the status of the lower-ground area (finished vs. unfinished), citing its exact data sources for the handler.

Proactive recommendations & expert retention: To isolate the failure point, the investigation agent advises about gaps and outlines further required investigation regarding pipe ownership and the exact mechanics of the failure (product defect vs. joint separation) — and, critically, whether the main has transferred to the regional water undertaker or remains a private, un-adopted pipe under the developer's responsibility.
It prioritises time-sensitive field tasks:

- Instruct evidence to be retained and photos taken.
- Assess damages by exposure (buildings, contents, alternative accommodation) and audit the Proof of Loss for accuracy.
- Retain materials experts.
- Pull weather data around the loss date and order local water pressure records.
- Verify pipe and fitting compliance with the Water Supply (Water Fittings) Regulations
- Analyse the applicable limitation period.

Statutory notice & liability: Where the main is vested in the property manager, the agent proceeds under the strict liability regime that applies to water undertakers, which makes the manager liable for loss or damage caused by an escape of water from its pipe, irrespective of fault, subject to narrow statutory exceptions. No negligence needs to be proven, and no immunity analysis is required, since water and managers are regulated private companies rather than nationalised services.

Resolution: The demand agent independently acts,

- Targets the water manager under section 209 strict liability, and compiles a comprehensive subrogation summary outlining the incident, clear liability, and validated damages.
- The agent reviews the incoming counter-offer from the recovery target, matches it against the summary, and autonomously accepts a reasonable (based on insurer's parameters) recovery settlement.

Automated payment application: The agent takes complete, end-to-end autonomy of the final financial payment application,

- **Financial reconciliation:** upon receiving the recovery funds, the agent verifies the payment amount to apply to the claim..
- **Excess reimbursement & closure:** applying the correct legal framework and company best practices, the agent automatically triggers a request to the finance team to return the excess to the insured, and officially closes out the claim file.

ARISE Framework: L5 — Exceeds

Level 5 is ambitious now, but articulates the potential in the quickly evolving arena of agents. End-to-end autonomous recovery across a strict-liability utility claim: statutory notice, expert coordination, summary construction, settlement acceptance, fund allocation, excess reimbursement, and claim closure — zero handoffs. This is the ARISE L5 Exceeds ceiling: the agent executes the recovery proactively and autonomously.

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4. Implications for insurance leaders

For Chief Claims Officers & Chief Operating Officers

For executives navigating macroeconomic volatility, soaring severity, and mounting pressure on combined ratios, AI agents serve as a core strategic lever. Water losses are notoriously deceptive, frequently written off prematurely as unrecoverable weather events rather than traced to systemic catalysts like manufacturing defects, installer negligence, or a water undertaker's negligence. AI agents proactively bridge this gap by executing end-to-end autonomous recoveries. They automatically parse complex technical failures, validate damages, and negotiate settlements — safeguarding significant sums in leakage with zero human touchpoints. This structural shift drastically compresses cycle times and directly optimises the bottom line.

For Subrogation Leaders & Teams

Subrogation leaders and frontline adjusters stand to benefit from a substantial reduction in operational friction. Traditionally, subrogation professionals have been burdened by manual research across three overlapping legal systems — England & Wales, Scotland, and Northern Ireland — each with its own limitation or prescription regime. AI agents act as an elite digital collaborator. The agent automatically interrogates free-form claim text, cross-references product recall databases, checks the applicable jurisdiction's time limits, and pre-packs an entirely validated action package for one-click human approval. By handling repetitive, data-heavy groundwork, subrogation teams see a dramatic improvement in throughput and speed to recovery. This alleviates the industry's acute talent gap, allowing professionals to pivot their focus away from procedural tasks and toward high-impact legal strategies and intricate, top-tier negotiations.

For Technology Leaders

Agentic AI represents a highly scalable approach built specifically to address traditional IT infrastructure constraints and technical debt. Rather than generating unstructured noise or basic status-quo alerts that lack context, these advanced LLM models successfully ingest both structured data and dense, free-form claims notes or adjuster reports to infer precise liability estimates. CTOs, CIOs and CDAOs can comfortably champion these tools because they emphasise a "human-in-the-loop" design that offers complete explainability and an auditable data logic trail for every recommendation. This structured transparency supports the outcomes-focused expectations of the FCA's Consumer Duty and eases evidencing to the PRA and FCA on request.

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5. Conclusion

The integration of agentic AI empowers UK insurers to move beyond linear, checklist-driven workflows, creating a more resilient and expert-driven operation capable of maximising recovery across a genuinely complex, three-jurisdiction environment. Augmenting teams with agentic AI represents a fundamental evolution in claims handling, creating a dynamic that prioritises human expertise where it matters most. By delegating routine analysis, statutory research, and data-heavy tasks to AI agents, insurers can unlock significant operational benefits,

- **Uncovering hidden recovery opportunities:** by autonomously parsing complex details and legal data, AI agents consistently identify and pursue high-value subrogation recoveries that would otherwise be missed or incorrectly closed.
- **Enhanced productivity:** by automating foundational groundwork, teams can process claims with greater speed, consistency, and focus on high-impact recovery activities.
- **Increased job satisfaction**: shifting the burden of repetitive, procedural work away from adjusters allows professionals to dedicate their time to the intellectually engaging aspects of the role, such as legal strategy and high-value negotiations.
- **Talent retention and training:** these agents serve as effective training tools, offering consistent guidance across all three UK jurisdictions that upskills staff and improves overall job satisfaction, which is critical for addressing industry-wide attrition.

Building an agentic recovery capability for the UK market

Developing an agentic solution requires solving a multi-layered matrix of data engineering, legal logic, and agentic orchestration. Addressing these structural challenges for the UK market means solving for:

- **Expert reasoning and jurisdiction-specific frameworks:** Subrogation expertise takes years of hands-on experience to cultivate. To replicate this workflow automatically, a solution must be programmed to recognise which forensic and investigative questions to prompt based on specific loss scenarios — such as isolating whether a water loss stems from a third-party contractor's installation error, a manufacturing defect, or a water manager's negligence and which of the three UK limitation or prescription regimes applies.

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- **AI-ready claim data pipelines:** Claims data is complex, consisting of structured and unstructured data sources. A solution must be capable of advanced ingestion pipelines capable of cleaning, normalising, and structuring both standard data fields and vast volumes of free-form text (e.g., loss descriptions, field adjuster notes, and third-party statements), alongside proprietary document classification models to parse fire brigade records, and witness statements.
- **Deploying and maintaining agentic infrastructure:** True automation requires an agentic infrastructure that features a sophisticated orchestration layer capable of planning multi-step investigative workflows, triggering automated external API calls, and autonomously packaging legally sound demand documents. Crucially, because subrogation involves legal recovery against third parties, this infrastructure must maintain a completely transparent, explainable audit trail that stands up to FCA and PRA scrutiny.
- **Lifecycle management:** A core complexity of an advanced subrogation solution lies in its long-term lifecycle management. Ongoing maintenance is required to ensure the system stays current, to re-train large language models (LLMs), to update jurisdictional changes across England & Wales, Scotland, and Northern Ireland, and to refresh API connections to fluctuating external data sources. An in-house build is behind on day one without continuous investment.

The Shift Advantage: Deploying Agentic Recovery Intelligence

Developing an agentic solution requires solving a multi-layered matrix of data engineering, legal logic, and agentic orchestration. Shift Subrogation addresses these structural challenges through a pre built, specialised framework:

- **Expert reasoning and negligence frameworks:** Subrogation expertise takes years of hands-on experience to cultivate. To replicate this workflow automatically, the solution must be programmed to recognise which forensic and investigative questions to prompt based on specific loss scenarios—such as isolating whether a water loss stems from a third-party contractor's installation error, a manufacturing defect, or municipal utility failure.

Shift Subrogation addresses this complexity with an extensive set of agentic skills, across auto and property lines including legal considerations and incident-specific considerations, while enabling a human-in-the loop design to work alongside human experts when needed. Shift manages and updates this complex compliance matrix locally across all 50 states, removing the ongoing maintenance burden from core IT teams.

- **AI-Ready claim data pipelines:** Claims data is complex consisting of structured and unstructured data sources. A solution must be capable of advanced ingestion pipelines capable of cleaning, normalising, and structuring both standard data fields and vast volumes of free-form text (e.g., loss descriptions, field adjuster notes, and third-party

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statements). It also demands the development of proprietary document classification models to parse police records, fire department logs, and witness statements.

Shift Subrogation streamlines this process by utilising a platform built on billions of insurance trained, AI-ready data elements. This specialised data architecture enables the platform to perform high-precision text interrogation immediately upon deployment, bypassing the prolonged data cleansing and model-training cycles typically required by home-grown initiatives.

- **Deploying and maintaining agentic infrastructure:** True automation requires an agentic infrastructure that features a sophisticated orchestration layer capable of planning multi-step investigative workflows, triggering automated external API calls and autonomously packaging legally sound demand documents. Crucially, because subrogation involves legal recovery against third parties, this infrastructure must maintain a completely transparent, explainable audit trail. Shift Subrogation provides complete transparency and maintains a comprehensive audit trail to support handlers, defend regulatory examinations and assist in performance analysis.
- **Lifecycle management:** A core complexity of an advanced subrogation solution lies in its long-term lifecycle management. Ongoing maintenance is required to ensure the system stays current to re-train large language models (LLMs), update jurisdictional changes, and refresh API connections to fluctuating external data sources. An in-house build is behind on day one without continuous investment. Shift Subrogation carries this architectural maintenance and offers continuous innovation to stay competitive in a quickly evolving, technology-driven marketplace.

Learn more about **Shift Subrogation.**

About Shift Technology

Shift delivers AI agents that transform insurers' most critical work. By combining deep industry expertise with unrivalled data resources, Shift provides proven results that have earned the trust of hundreds of the world's leading insurers. Our insurance-grade AI is accurate, explainable and secure, empowering human experts to act with unparalleled speed, complete confidence and a renewed focus on the people they serve.

Learn more at www.shift-technology.com/en-gb