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CASE STUDY · MARLUC SYNOPSIS

Moat damp and mould early-warning model

IMPLEMENTED 2023–2025 · CONSTRUCTION AND PROPERTY · UK · BAND E · CLAIMED ONLY

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A housing provider built a machine learning model to flag homes at risk of damp and mould, used as advice to surveyors. It says the model is in use; no outcomes are published.

ABOUT THIS SYNOPSIS

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Facts and figures are as reported by the sources listed below, which may be incomplete, self-reported or out of date. Check the original source before relying on any figure.

The impact band, proof marker and SEAM view are MarLuc's opinion. The organisation is not a MarLuc client and has not reviewed or endorsed this synopsis. Names and trademarks belong to their owners.

NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

No measurable effect: no results reported.

AI used: Predictive machine learning model (XGBoost) with explainability, used as advice to surveyors.

Implemented: 2023–2025. Grade: band E, No measurable effect, Claimed only.

Headline result, as reported: Model flags homes at higher damp and mould risk for surveyors, by Moat's account; no results published and surveyor capacity is the constraint

1 · The case

The facts, as reported by the 2 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Moat. Social housing provider. Moat's head of data and business systems wrote the account. Size: Not reported in the sources used. Canvas block: 4. Operations and process. Also 8. Governance and risk, 6. Data and technology.

Business challenge

The challenge. By Moat's account, signals of emerging damp and mould risk were fragmented across systems, teams and time, and insight was mostly retrospective. Before building a model, Moat asked whether its processes and data were reliable enough to support prediction.

Who implemented it

In-house (In-house): Built the model with the property services department.
No external vendor is named in the sources.

Technology (SEAM pillar E)

SEAM types: T8 Predictive / ML models. Deployment: Not reported. Vendors and products: XGBoost, SHAP, MLflow, Power BI.

Where it was built in: Built by Moat's data team with its property services department from repairs, property, EPC, voids, CRM and environmental data; scores are shown to surveyors.

What changed

Before: damp and mould cases were handled with varied workflows and inconsistent triage. After, by Moat's account: consistent logging, shared reporting, and a model that highlights homes with elevated risk indicators so surveyors can inspect earlier. Moat says it is still working out how to fit these signals into a service with finite surveyor capacity. [1] [2]

What it cost

Not reported

What it saved

Not reported. The article gives no case numbers, accuracy figures or savings. [1] [2]

Governance and control

Moat says the model is decision support and not automated decision-making, that outputs remain subject to human review, that explainability was non-negotiable, and that surveyors can challenge a flag. These are Moat's own statements.

S2 · Accountable owner · Claimed
Moat says it is clear who remains accountable for the decision that follows a flag, without naming the role beyond the surveyors and property services. [1]

A1 · Safe use · Claimed
Moat says explainability was non-negotiable because damp and mould is safety-critical. [1]

A2 · Human in the loop · Claimed
Moat says all outputs remain subject to human review and surveyors can challenge a flag. [1]

A3 · Monitoring and assurance · Claimed
Moat tracks experiments in MLflow and captures surveyor validation as labelled data; no accuracy monitoring is reported. [1]

A4 · Vendor AI · Not reported
Not reported.

A5 · Agent controls · Not reported
Not reported.

A6 · Standards and regulation · Not reported
Not reported.

What worked, what did not, what is unproven

WORKED

– Foundations first: Moat says business intelligence delivered value before predictive analytics was introduced.

– Explainable scores let surveyors see why a home was flagged and challenge it, by Moat's account.

– Surveyor judgements are captured as labelled data to refine the model, by Moat's account.

DID NOT

– Moat says the harder problem is capacity: surveyors are stretched by reactive demand, and it is still working through the tension between what the data shows and what the service can do.

UNPROVEN

– Whether the model finds problems earlier or reduces cases.

– How accurate the model is.

Timeline

2023 Moat introduces a structured workflow so damp and mould cases are logged and triaged consistently [1]

2024 Power BI reporting suite brings together case volumes, repeat visits and geographic clustering [1]

2025 Moat builds a machine learning model to flag homes at greater risk, framed as decision support [1]

Mar 2026 Housing Technology publishes Moat's account; Moat is Highly Commended in the Artificial Intelligence category at the 2026 awards [2]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: E, No measurable effect. Proof: Claimed only. Level of change: Not graded.

No level assessed: band E, in use but no outcome published.

The SEAM view and lessons learnt

The article is clear about the build order and the advisory role, but it reports no results, so nothing can be separated from the earlier workflow and reporting changes. Before copying the approach, a leadership team should ask how a flag turns into an inspection when surveyor capacity is the limit, and what outcome measure will show the model is worth keeping.

1. Fix workflows and data before building a model.

3. Agree the inspection capacity before the flags go live.

Evidence

Score 0 of 4. Self-reported contributed article; no outcome data.

Evaluation method. Self-reported: a contributed article by Moat's head of data and business systems. No evaluation.

Sources disagree. No disagreement found.

Status. In use in 2026 by Moat's account; no later reporting found.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/moat-damp-and-mould-risk-model

[1] Housing Technology: Moat's early warnings for damp & mould through AI (March 2026)
https://www.housing-technology.com/moats-early-warnings-for-damp-mould-through-ai

[2] Housing Technology: Housing Technology Awards 2026
https://conference.housing-technology.com/awards-archive/awards-2026

Moat website: https://www.moat.co.uk

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