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CASE STUDY · MARLUC SYNOPSIS

HMRC AI in tax compliance

IMPLEMENTED 2010 ONWARDS; AI EXPANSION 2025–2026 · GOVERNMENT AND PUBLIC SERVICES · UK · BAND C · CLAIMED ONLY

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HMRC says AI and advanced analytics helped protect and recover £10 billion of tax in 2025 to 2026, and it uses AI in compliance risk work, including social media checks in criminal investigations. A tribunal ordered it in 2025 to stop refusing to say whether it used generative AI on R&D tax relief claims.

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Facts and figures are as reported by the sources listed below, which may be incomplete, self-reported or out of date.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

AI and automation used: AI and advanced analytics for compliance risk targeting, plus generative AI assistants for staff.

Implemented: 2010 onwards; AI expansion 2025–2026. Grade: band C, Process change, Claimed only.

Headline result, as reported: AI and advanced analytics enabled the protection and recovery of £10 billion in tax in 2025 to 2026, by HMRC's account

1 · The case

The facts, as reported by the 5 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

HM Revenue and Customs (HMRC). UK tax, payments and customs authority. It raised £966.4 billion in tax revenues in 2025 to 2026, by its annual report. Canvas block: 4. Operations and process. Also 6. Data and technology, 8. Governance and risk.

Business challenge

The challenge. HMRC aims to reduce the tax gap by 2030, with annual compliance yield expected to rise by a further £10 billion, and says it is employing new technologies alongside 5,500 extra compliance officers. Its roadmap describes greater use of AI as part of tackling those who bend or break the rules.

Who implemented it

In-house (In-house): HMRC: runs Connect and its compliance analytics and AI work.
Microsoft (Software vendor): Supplies Copilot licences used by more than 28,000 staff.
HMRC awarded two 12-month pilot contracts after an AI and data science competition in 2025; the suppliers are not named in the sources opened.

Technology (SEAM pillar E)

SEAM types: T8 Predictive / ML models, T2 Embedded AI in existing software. Deployment: Not reported. Vendors and products: Microsoft, Connect, Microsoft Copilot, Ask HMRC.

Where it was built in: Compliance risk targeting through the Connect analytics platform and AI, social media analysis in criminal investigations, Copilot for staff and a digital assistant for customers.

What changed

Before: compliance targeting through Connect and analytics, used for years, per the BBC and Pinsent Masons. After: AI is used more in risk targeting and in criminal investigations, by HMRC's account, with a Chief AI Officer from April 2026. How cases are selected and by what models is not published. [1] [2] [3] [4] [5]

What it cost

Not reported

What it saved

£10 billion of tax protected and recovered through AI and advanced analytics in 2025 to 2026, by HMRC's annual report. The method behind the figure and the share due to AI alone: Not reported. [1] [2] [3] [4] [5]

Governance and control

HMRC says AI does not replace human decision-making and is subject to legal oversight, that it applies established ethical and safety controls, and that it appointed a Chief AI Officer to ensure responsible AI. In 2025 the First-tier Tribunal rejected HMRC's refusal to confirm or deny whether it held information on generative AI use by its R&D tax credits compliance team, and ordered it to respond.

S2 · Accountable owner · Claimed
HMRC appointed its first Chief AI Officer in April 2026 to provide leadership and ensure responsible AI. [1]

A1 · Safe use · Claimed
HMRC says it applies established ethical and safety controls and aligns with government AI frameworks. [2]

A2 · Human in the loop · Claimed
HMRC told the BBC that AI would not replace human decision-making and was subject to legal oversight. [3]

A3 · Monitoring and assurance · Not reported
Not reported.

A4 · Vendor AI · Not reported
Not reported.

A5 · Agent controls · Not reported
No agents described.

A6 · Standards and regulation · Outside scrutiny (a regulator, court, auditor or similar body acted)
The First-tier Tribunal allowed an appeal and ordered HMRC to state whether it held information on LLM use by its R&D tax credits compliance team. [5]

What worked, what did not, what is unproven

WORKED

– Compliance yield of over £50 billion in 2025 to 2026, a first, by HMRC's account, with £10 billion attributed to AI and advanced analytics.

– Wide staff adoption: 47,000 completed an AI learning module and more than 28,000 use Copilot, by HMRC's account.

DID NOT

– Transparency: the tribunal found the Information Commissioner had wrongly weighed the public interest in upholding HMRC's neither-confirm-nor-deny response on LLM use in R&D claims, and ordered HMRC to say whether it held the information.

– HMRC narrowly missed its £50.4 billion compliance yield target, per Pinsent Masons.

UNPROVEN

– How much of the £10 billion is due to AI as opposed to wider data analytics.

– Whether generative AI was used to decide or draft R&D claim rejections, which the appellant suspected.

– Accuracy and error rates of AI risk targeting: Not reported.

Timeline

Dec 2023 Freedom of information request asks how the R&D Tax Credits Compliance Team uses large language models [5]

Aug 2025 First-tier Tribunal allows the appeal and orders HMRC to say whether it holds information on LLM use (decision given 2 August 2025) [5]

Aug 2025 HMRC confirms it uses AI to monitor social media in criminal investigations, per the BBC [3]

Apr 2026 HMRC appoints its first Chief AI Officer [1]

Jul 2026 Annual report says AI and advanced analytics enabled £10 billion of tax protected and recovered [4]

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: C, Process change. Proof: Claimed only. Level of change: Process change.

Process change (Level 2, band C), claimed. HMRC describes AI as embedded in compliance risk targeting with a large attributed yield; the evidence is HMRC's own.

Graded C, with AI only part of the technology. HMRC describes AI as embedded in how it selects compliance cases and attributes £10 billion to AI and advanced analytics, which would mean a changed process. The figure is HMRC's own, AI is not separated from wider analytics, and a tribunal ordered it to say whether it held information on generative AI use in R&D claims.

The SEAM view and lessons learnt

HMRC's account puts AI inside a mature analytics operation, and its leadership has added a Chief AI Officer and wide training. The open question is transparency: a tribunal ordered it to say whether it used generative AI on R&D claims, and the £10 billion figure has no published method. For any large organisation using AI to target customers for investigation, publishing how the models are used and how the benefit is counted is part of the control.

1. Publish how AI benefits are measured when you report a headline figure.
2. Say plainly where AI is and is not used in decisions about people.
3. Separate AI from wider analytics when attributing results.

Evidence

Score 1 of 4. Self-reported: the results are HMRC's annual report figures; the tribunal decision is independent and concerns transparency only.

Evaluation method. Self-reported organisational figures: HMRC's annual report attributes £10 billion to AI and advanced analytics without a published method in the sources opened.

Status. Ongoing: AI in use across compliance and customer service, by HMRC's 2025 to 2026 annual report and 2026 roadmap.

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/hmrc-ai-compliance-targeting

[1] GOV.UK (HMRC): Annual report and accounts 2025 to 2026, executive summary
https://www.gov.uk/government/publications/hmrc-annual-report-and-accounts-2025-to-2026/hmrcs-annual-report-and-accounts-2025-to-2026-executive-summary

[2] GOV.UK (HMRC): Transformation roadmap update 2026
https://www.gov.uk/government/publications/hmrc-transformation-roadmap-progress-update-2026/hmrc-transformation-roadmap-update-2026

[3] BBC News: HMRC confirms it uses AI to monitor social media of suspected tax cheats
https://www.bbc.com/news/articles/cqjyedz202ko

[4] Pinsent Masons Out-Law: UK firms warned following HMRC AI-powered tax crackdown
https://www.pinsentmasons.com/out-law/news/uk-firms-warned-following-hmrc-ai-powered-tax-crackdown

[5] First-tier Tribunal (General Regulatory Chamber): Thomas Elsbury v The Information Commissioner [2025] UKFTT 915 (GRC)
https://caselaw.nationalarchives.gov.uk/ukftt/grc/2025/915

HM Revenue and Customs (HMRC) website: https://www.gov.uk/government/organisations/hm-revenue-customs

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