

Engagement Paper

Proposal for AI Live Testing

April 2025

How to respond

We are asking for comments on this paper by **13 June 2025**.

You can send them to us using the form on our [website](#).

Or in writing to:

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Foreword

Our aim over the next five years is to become a smarter regulator. We have a clear focus on supporting innovation and sustained economic growth in the UK market, helping consumers navigate their financial lives and fighting financial crime.

The adoption of Artificial Intelligence (AI) by UK financial services can help to achieve these objectives. Our collaboration with industry is a crucial next step in ensuring a robust, proportionate and pro-growth outcome that protects consumers and markets.

AI offers firms opportunities to bring better products and services to consumers, improve operational efficiencies, optimise portfolios, improve fraud detection and support vulnerable consumers.

The FCA is renowned for its world-leading Innovation Sandbox approach. This supports new regulatory regimes to be tested, enables new technologies to drive innovation and helps deliver growth in the fintech industry.

We will continue to lead the way in driving innovation and supporting growth. We offer advice to firms and an enhanced AI Lab to support live testing, providing synthetic datasets and a unique approach to testing new service offerings. We believe this is the right step to enable the safe adoption of AI in industry.

We welcome feedback on the pro-tech and agile approach outlined here for our next steps in AI Live Testing.



Jessica Rusu
FCA Chief Data, Information & Intelligence Officer

Chapter 1

Executive summary

- 1.1** Our strategy sets out our priorities to become a smarter regulator, support growth, help consumers and fight crime. These 4 strategic themes are interlinked and underscore our vision to deepen trust, rebalance risk, support growth and improve lives.
- 1.2** We want to enable the safe and responsible adoption of AI in UK financial services to unlock its potential for markets and consumers, whilst balancing its risks.
- 1.3** We plan to launch AI Live Testing, as part of the existing AI Lab, to support firms' safe and responsible deployment of AI and achieve positive outcomes for UK consumers and markets. We are asking for comments on this paper by **13 June 2025**. You can send them to us using the form on our website.
- 1.4** Our principles-based and outcomes-focused regulatory approach gives firms flexibility to innovate in the way they provide financial services. We have been clear that we will avoid additional regulation for AI by relying on existing frameworks. We believe that our existing outcomes-based approach to regulation gives firms clarity about our expectations of them.
- 1.5** AI continues to evolve swiftly, requiring an agile regulatory approach. While no one has all the answers, our regulatory and technical teams work directly with firms, providing tailored support as firms develop and deploy live AI models. As part of AI Live Testing, this will include exploring output-driven validation methods for AI models. We want to ensure compliance is the foundation for helpful innovation rather than a barrier to it. Through AI Live Testing firms will be able to live-test AI models to build confidence in their performance, while also receiving regulatory support and regulatory comfort to support appropriate deployment.
- 1.6** Our goal is to give firms the confidence and certainty to invest in AI systems in a way that drives growth and delivers positive outcomes for UK consumers and markets. We also want to work with industry to better understand AI risks and explore effective mitigation strategies, to support the FCA's regulatory and supervisory approach to ensure a safe and responsible future for AI.
- 1.7** This Engagement Paper outlines our proposed approach to AI Live Testing. We set out questions before launching the service in summer 2025 and invite views on these by 13 June 2025.

Chapter 2

The case for AI Live Testing

The role of the FCA and its objectives

- 2.1** The FCA regulates financial services firms and financial markets in the UK. Our strategic objective is to ensure relevant markets function well.
- 2.2** Our operational objectives are to:
- secure an appropriate degree of protection for consumers,
 - protect and enhance the integrity of the UK financial system, and
 - promote effective competition in the interests of consumers.
- 2.3** The FCA has a secondary objective to facilitate the international competitiveness of the UK economy and its growth in the medium to long term, subject to alignment with international standards.
- 2.4** As a financial services regulator, we have an important role in the continued success and competitiveness of the UK financial services markets and their contribution to our economy.

Our strategy

- 2.5** We've outlined how we will achieve our objectives in our 5-year strategy. Our strategy focuses on deepening trust, rebalancing risk, supporting growth and improving lives. We aim to achieve this through 4 priorities:
- Being **a smarter regulator**: predictable, purposeful and proportionate. The FCA will improve its processes and embrace technology to become more efficient and effective.
 - **Supporting sustained economic growth**: by enabling investment, innovation and ensuring the continued competitiveness of the UK's world-leading financial services.
 - **Helping consumers to navigate their financial lives**: by working with industry to boost trust, product innovation and ensuring the right information and support is available for people to take financial decisions.
 - **Fighting financial crime**: focusing on those who seek to use the fact they are regulated to do harm. We will support firms to be an effective line of defence.

The FCA's approach to AI

- 2.6** Our regulatory approach is principles-based and outcomes-focused. This is the same approach we are applying to firms using AI (see [AI Update](#)). This approach ensures firms know what is expected of them, while supporting UK growth and competitiveness by enabling them to realise the benefits of a fast-moving technology like AI.
- 2.7** In our [Chief Executive's letter to the Prime Minister](#) in January 2025, we committed to relying on existing frameworks instead of producing AI-specific regulations.
- 2.8** The joint [BoE-FCA AI Survey](#), published in November 2024, shows that 75% of the 118 respondent firms are using AI, with a further 10% planning to adopt it within 3 years. Whilst the appetite for AI is clearly high, the survey also highlights that most AI use cases are for internal applications rather than direct consumer benefits.
- 2.9** This cautious approach to adoption was also a theme discussed at our [AI Sprint event](#), another component of our AI Lab, which took place in January 2025. Stakeholders emphasised the importance of understanding how existing frameworks apply to the use of AI and having a safe space to test and deploy AI systems.
- 2.10** To further support firms with safe and responsible AI adoption, we want to collaborate with them on how to evidence beneficial outcomes when using advanced AI models (as distinct from traditional statistical models).

AI and the potential for economic growth

- 2.11** The opportunity for AI to drive economic growth has been widely recognised. Scenarios modelled by the IMF include an up to 16% growth in UK economic output due to AI-driven productivity and output improvements. The [Tony Blair Institute for Global Change](#) estimates that AI could raise UK national income by 5% to 14% by 2050, with a most likely scenario equivalent to over £300 billion a year in today's terms.
- 2.12** Despite uncertainties over AI's evolution and how its use will evolve over time (see the Financial Policy Committee's recent [Financial Stability in Focus](#) report), the [OECD](#) have identified significant potential for growth in financial services through the use of AI. Based on the recent [IOSCO AI report](#), firms are identifying market surveillance, compliance, data extraction and analysis as future opportunities to be further enabled by AI.
- 2.13** FCA AI Live Testing will help firms transition from proof of concept (PoC) to live market deployment, whilst offering us empirical insights into what is needed to design, develop, evaluate and deploy safe and responsible AI in UK financial markets. This approach aims to foster safe and responsible AI adoption and support economic growth in UK financial markets. It also makes a significant contribution to our 5-year strategy.

Our approach to AI testing

- 2.14** The FCA is inviting firms to collaborate with us on AI Live Testing, as part of the AI Lab. We want to explore how to evidence outcomes when using advanced AI models (as distinct from traditional models). This will help to support the deployment of safe and responsible AI by firms and achieve positive outcomes for UK consumers and markets.
- 2.15** In line with our commitments to the Prime Minister on growth, we are adopting an agile approach to support the safe and responsible adoption of AI. This includes continuous engagement, testing and collaboration with firms.
- 2.16** We will engage with firms as they address some of the unique challenges of deploying advanced AI models. Some of the questions we want to explore include:
- what input-output validation may be needed to build confidence that AI-generated outcomes are likely to meet regulatory expectations
 - how to assess if an AI model is sufficiently robust (including the choice of relevant metrics against which to assess robustness), including firm monitoring of robustness
 - if the output of an AI model is not explainable and/or not sufficiently robust, what are the implications for its potential use in UK financial markets
 - measurement of the degree of the AI model's bias and, by implication, what degree of de-biasing may be appropriate for any given use case
 - how consumer groups, including vulnerable consumers, may be impacted by the new technology
 - what processes are in place to address poor/unintended AI model outcomes when they arise.
- 2.17** These are difficult questions to answer in a way that is measurable, evidenced, and meaningful for delivering safe and responsible AI in UK financial markets. Our goal is to develop a shared technical understanding of these challenges and their potential solutions, allowing more firms to launch AI-powered services that achieve positive outcomes for consumers and markets.

The case for AI Live Testing

- 2.18** The FCA is a world-leading regulator, having established a number of innovation services for financial markets, including Innovation Pathways, the Regulatory Sandbox, Digital Sandbox, and our TechSprints. As part of our AI Lab, AI Live Testing would be built in addition to these existing innovation services, focusing on supporting firms that are ready and willing to deploy AI models into live markets.
- 2.19** Our proposal for AI Live Testing supports the AI Opportunities Action Plan, as published by the UK Government in January 2025. The AI Opportunities Action Plan aims to help drive UK economic growth and efficiency with 50 recommendations for how the UK can shape the future of AI. These recommendations include embracing trustworthy AI to catalyse adoption, specifically highlighting financial services as a key industry.

- 2.20** Globally, other regulators are asking similar questions in relation to testing AI. For example, in the USA, the National Institute of Standards and Technology (NIST) has produced an AI risk management framework (AI RMF) that comprises a variety of profiles intended to represent different use case and sector combinations. Similarly, Singapore's AI Verify Foundation is developing an AI governance testing framework and software toolkit that aims to provide a set of standardised technical tests, building on the AI principles of the Singaporean Government's Infocomm Media Development Authority (IMDA).
- 2.21** We also note that there is an emerging interest within the academic community, asking how best to evaluate AI models to achieve intended results and measure outcomes, such as the recent Royal Society journal paper Towards algorithmic auditing (Koshiyama et al (2023) (see also Falco et al (2021)).
- 2.22** We do not believe a similar service to the FCA's AI Live Testing has yet been offered elsewhere. The FCA's proposals for AI Live Testing are uniquely tailored to the UK financial services context, including the FCA's role within it. It is not seeking alignment with, or endorsement of, frameworks outside the FCA's remit.
- 2.23** AI Live Testing closely aligns with other innovation approaches that form part of the AI Lab, including the Supercharged Sandbox and the Digital Sandbox. The Digital Sandbox supports PoCs at earlier stages of development, helping innovators to test, develop and scale their technical propositions by providing access to high-quality data assets and compute capacity. The Supercharged Sandbox will enhance our Digital Sandbox infrastructure through greater computing power, enriched datasets and increased AI testing capabilities. By contrast, AI Live Testing focuses on products that have completed the PoC stage and are mature enough for rollout in live markets.
- 2.24** The approach we take as part of AI Live Testing would need to be flexible and forward-looking given the pace of change in AI. It is currently expected to run for approximately 12 months, with periodic updates on findings and a final report being provided. If successful, the AI Live Testing functionality may be integrated into established FCA services.

Chapter 3

Proposal

Scope

- 3.1** FCA AI Live Testing, as part of the AI Lab, will explore the challenges that firms face before live AI deployment in UK financial markets. It aims to foster collaboration, develop shared understanding, and explore evaluation methods (e.g. model metrics) and potential frameworks or benchmarks that may facilitate safe and responsible AI use throughout its lifecycle, from input quality control to outcomes measurement.
- 3.2** We will provide participants with access to appropriate AI expertise in addition to regulatory expertise and seek to understand the nature of any emerging regulatory challenges they may face.
- 3.3** AI Live Testing is designed to be exploratory in nature and does not seek to cover AI auditing, certification, regulatory compliance with other frameworks or corporate governance questions.
- 3.4** Participant firms need to demonstrate that they have carried out effective pre-deployment testing and are ready to deploy into controlled live market environments, interacting with consumers. We will work with firms to make sure they have appropriate risk identification and safeguards in place, including an approach to addressing any potential harms.
- 3.5** As part of AI testing, the FCA has a range of tools it can use to provide firms with regulatory comfort, where appropriate to do so. Similar to the Regulatory Sandbox, this may include providing individual guidance, waivers or modifications to requirements. Where market or sector wide issues are identified, the insights gathered may help inform our regulatory approach more generally, including whether any further clarifications or guidance might be helpful.

Eligibility

- 3.6** AI Live Testing is open to all firms who provide and support financial services in the UK, with voluntary participation based on the competitive selection criteria outlined below.
- 3.7** This process is not suitable for firms just embarking upon an early proofs of concept phase, or firms making operational improvements that don't require regulatory support. This approach is designed to maximise value for firms looking to deploy established proofs of concept, whilst driving innovation and supporting the FCA's secondary growth objective.

- 3.8** The proposed selection criteria include requirements that the applicant firm must:
- produce and distribute financial products and services, or provide AI models that are material to financial services and markets
 - have a material AI use case that is relevant to financial services and markets, ie non-financial service use cases (e.g. IT, operations, sales, marketing, human resources, legal) may be excluded
 - actively use AI within their specific use case
 - have an AI use case and technology that is likely to further one or more of our operational objectives, and has the potential to positively contribute to UK economic growth
 - have already developed an AI solution PoC and have plans to deploy their AI solution
 - be able to demonstrate effective pre-deployment testing prior to applying, ensuring readiness for live market rollout
 - consider post-deployment monitoring plans, including demonstrating how this would be carried out and being able to share the findings with the FCA.
- 3.9** The aim of the selection criteria is to ensure that we engage with a diverse sample of financial services firms, representative across the sector. We will also consider competition in designing the selection process for AI testing and remind applicants of their obligation to always ensure their own competition law compliance.
- 3.10** Firms still in the discovery phase of AI exploration can access support from the Supercharged Sandbox and Digital Sandbox as part of the full service offering of the AI Lab.

Sharing our insights

- 3.11** The FCA will publish interim findings and final insights gathered from AI Live Testing, where appropriate, to ensure that all market participants can benefit. This will be done subject to any limitations around confidential or proprietary information.

Working with the FCA

- 3.12** Firms selected to test will be expected to act in good faith when collaborating with the FCA and share all necessary information (including eg model testing documentation etc) as needed for the purpose of AI Live Testing.
- 3.13** We will work with firms to agree practical ways of working, ensuring access to relevant data, models, and details to support secure testing.
- 3.14** Participating firms would be expected to closely monitor their AI deployments during live testing and share their approach to ongoing monitoring, as well as the relevant data (which would be agreed depending on the use case), with the FCA. We want to ensure the continued deployment of the tested AI systems is done safely and responsibly as well as to gather insights for the FCA to understand how AI is changing markets,

including what this may mean for the FCA's objectives. We note that competitively sensitive information cannot be shared between firms and that it is the responsibility of firms to ensure that competition law is complied with.

Length of AI Live Testing

- 3.15** AI Live Testing is currently expected to run for approximately 12 months, with each cohort live testing for approximately 6 months, after which we will evaluate whether it has met its stated objectives. Depending on industry feedback and an overall evaluation, it could become a permanent feature of our FCA innovation services.

Supporting ongoing FCA AI work

- 3.16** This work draws on a variety of academic and regulatory perspectives and will be of interest to those who build AI models, financial services firms, and consumer groups in understanding complex debates on building and implementing safe and responsible AI systems.
- 3.17** We have already begun publishing a series of Research Notes on how AI intersects with financial services to spark discussion on issues such as data considerations, bias, and technical mitigation strategies.
- 3.18** The insights from AI Live Testing will feed into our domestic and international AI work.
- 3.19** Domestically, the Bank of England and the FCA are establishing an AI Consortium to foster public-private engagement. The Consortium will gather stakeholder input on AI capabilities, development, deployment, and use in UK financial services, focusing on financial stability and the FCA's market integrity objective. It will identify new and emerging capabilities, benefits, risks, and challenges, and be used to inform our path forward.

Timelines

- 3.20** We propose that AI Live Testing commences in summer 2025. The application process will open in early summer.

Questions

3.21 We would welcome responses to the following questions:

Question 1: What are the primary blockers that you encounter prior to live market deployment of AI models? Are these related to technical issues, AI models, governance, regulatory or other? Please provide details.

Question 2: In your opinion, would the FCA proposal for AI Live Testing address potential AI deployment challenges?

- Are there particular areas we should focus on as part of AI Live Testing? This could be either certain types of AI models, AI evaluation techniques, outcome assessment strategies or particular financial services sectors.
- Is there more we could do?

Question 3: Is there any other feedback you would like to share with us?

3.22 Firms may wish to use the Qualtrics link below to respond the questions:

[Qualtrics Survey](#)

Feedback

3.23 We welcome discussion and feedback by 13 June 2025.

3.24 You can send your feedback to:

Advanced Analytics
Financial Conduct Authority
12 Endeavour Square
London E20 1JN

Email:
AILiveTesting@fca.org.uk

3.25 When providing feedback please include as much detail as possible and provide evidence for your responses where possible to do so.

3.26 We are interested in views from all stakeholders, but would particularly encourage feedback from representatives of:

- Chief Information Officers
- Chief AI Officers
- Chief Data Officers
- AI solution providers

Measuring success

3.27 We propose to publish a report in spring 2026 that evaluates the success of AI Live Testing using qualitative and quantitative metrics. These metrics may include:

- the number of firms who applied and successfully tested AI models.
- types of models.
- their application in financial services.
- potential market impact (if quantifiable).
- evidence of positive outcomes for consumers and markets.

Illustrative example – loan and credit provisioning

The example below is provided for illustrative purposes only.

A lending institution has developed or purchased from a third party a predictive model to enhance:

Loss provisioning

Loss provisioning is the ability to assess and manage credit risks with the objective of increasing the accuracy and efficiency of provisioning practices. For example, an AI model could help the firm manage their balance sheet and liquidity reserves more efficiently.

Credit provisioning

Credit provisioning is the ability to assess and manage credit risks. An AI model could improve the accuracy and efficiency of the firm's credit decisions so that they can lend to more customers without significantly increasing losses.

Testing questions:

Questions to consider may include:

- what level of human oversight of the AI model may be required?
- how to measure the performance of the model, including whether its decisions in relation to credit decisions / loss provisioning are robust?
- how to identify, and mitigate, any potential biases in the model?
- how to ensure the model does not overstate the likely losses from loans to certain groups or denies, for example, credit to certain demographics or small businesses and startups?
- how to assess the robustness of the external data the AI model is using to assess credit risk?
- how to guarantee the robustness of the model to ensure it effectively maintains the firm's financial viability?
- how to ensure the on-going resilience of the model and avoid exacerbating economic downturns through excess procyclicality in provisioning?

Testing could also include, for example:

- measures to help the firm establish clear processes for humans to monitor and intervene in the model's decisions
- protocols for human review and approving model outputs and decisions
- clear 'stop button' procedures when risks or issues emerge.

An AI system can be understood along several dimensions: the training data, underlying algorithm, inputs, outputs, governance and the product which uses the model.

Testing could involve:

- **Defining and analysing metrics and benchmarks:** We may jointly discuss and explore use-case specific benchmarks, performance indicators and safety metrics that can be implemented to increase confidence and certainty in the performance of the model.

In this case study, these may potentially include:

- metrics around the distribution of credit approvals and loan approval rates
- interest rates and loan terms across different demographic groups and geographic regions
- small business lending
- default rates during economic upturns and downturns.
- lending patterns in different regions, and
- documenting how individual decisions are taken, including the degree of confidence that they are reasonable or fair.

Discussing appropriate mitigations: Metrics and performance standards can guide discussions on risk mitigation strategies. For example, firms could limit the volume of loans during testing, supplement testing with historical data, or create additional human oversight to monitor and reduce risks.

In addition, we will provide participants with access to appropriate regulatory expertise and seek to understand the nature of any emerging regulatory concerns or challenges that may arise.

AI Live Testing could provide additional benefits in two other areas:

- **Monitoring market impact:** AI Live Testing could help firms establish systems to continuously monitor key metrics, identify issues, and improve the model's performance beyond AI Live Testing. For example, firms could monitor trends and changes in loan recipients' circumstances and lenders' conditions, ensuring the model remains effective and relevant on an ongoing basis.
- **Model documentation:** Participation in the AI Live Testing could assist firms in developing appropriate documentation and an audit history of version changes. We could support the firm in developing methods to explain the decision-making process at both the model level and how it interacts with other models, systems and processes within the firm. Additionally, this approach could include strategies for ensuring appropriate explainability for consumers.

Loan loss provisioning is one hypothetical use case. Any AI use case that firms feel they are unable to deploy at the moment, in line with the suggested selection criteria above, would be considered for AI Live Testing. We invite firms to identify other scenarios to help us ensure that AI Live Testing can have the biggest impact on supporting beneficial innovation and growth.

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