

Market Abuse Surveillance TechSprint

25 March - 20 June 2024



Contents

- 4 Introduction
- 5 FCA Market Abuse Surveillance TechSprint
- 6 Problem statements and guidance
- 11 The data
- 12 What role(s) could you play within your own teams?
- 14 Building your application
- 15 The spirit of the event
- 16 Communications approach and guidelines
- 17 How to be involved



“Trading strategies are evolving rapidly, becoming more complex, algorithmically driven and supported by advanced analytics, machine learning and AI. Surveillance strategies need to evolve to keep pace with these developments.

Our TechSprint provide a mechanism for regulators, financial institutions, fintechs and academics to come together to ensure that our markets evolve in ways that support innovation, contain costs, maintain the integrity of UK financial markets and drive competition in the interests of the wider UK market and consumers.”

Jamie Bell, Head of Department at Market Oversight, FCA

Introduction

Trade surveillance in financial markets aims to identify market manipulation and insider dealing, as well as other illegal behaviours. Market surveillance technologists face barriers to entry and challenges around development, such as the need for large, diverse and high quality datasets to test models, while also remaining privacy compliant.

At the same time, there is a growing need for more sophisticated market abuse detection tools that can monitor evolving market dynamics and detect complex forms of market abuse. Artificial Intelligence and Machine Learning (AI/ML) may play a role in enhancing data analysis capabilities, improving pattern recognition and anomaly detection, and increasing the efficiency of market surveillance systems with greater accuracy.

We would like to use this TechSprint to explore AI-powered solutions to help detect evolving forms of market abuse and encourage collaboration among the different players in this field. We are particularly interested in seeing how AI can help identify more complex types of market abuse that are currently difficult to detect, such as in cross-market manipulation.

Aim and outcomes

- Reduce data-centric barriers to innovation
- Improve efficiency and bring about better market surveillance outcomes for firms and/or lower the cost of surveillance
- Make surveillance techniques more resilient and adaptive to market stress events
- Tap into academic community to advance thinking on market abuse surveillance
- Encourage a collaborative approach among technologists and third-party providers
- Develop a framework for supervision with wider applicability across the FCA
- Develop an adaptive approach to the evolving market environment by capturing new trends and exploring new possibilities

FCA Market Abuse Surveillance TechSprint

When

25 March until 20 June 2024

What

A three-month cohort-based TechSprint looking into how AI-powered solutions can help enhance the detection of market abuse.

The aim is to bring out solutions and proofs of concepts through the innovative and responsible use of data to improve detection rates, such as through increasing accuracy, enhanced anomaly detection, or entirely revolutionising certain aspects of market abuse surveillance.

Throughout the course of the TechSprint, participating teams will have access to dedicated FCA coordinators who will help guide solution development and provide relevant steers where appropriate. Teams will also have access to datasets on the FCA Digital Sandbox platform.

Where

25 March: Virtual kick off and Bootcamp

Virtual weekly or biweekly engagements with the FCA across March, April, May, and early June.

20 June: In person Demo Day at the FCA offices, 12 Endeavour Square, London, E20 1JN



Problem statements and guidance

This TechSprint will be centred around three main problem statements to explore.

Problem statement one

Improved accuracy of market abuse detection: How can AI in post trade market abuse surveillance help reduce false positives, produce a higher proportion of true positives, resulting in more accurate alerts and signals.

Sub-considerations

- Resilient approaches to market stress events and high volatility conditions that may lead to abnormal alerts: Incorporating the conditions of the market at a specific point in time, allowing for constant and automatic calibration to reduce false positives while retaining sensitivity in the identification of genuine abuse.
- Adaptiveness & future proofing, allowing for more dynamic surveillance parameters that will change to reflect evolving market conditions.
- Tracking and monitoring emerging or evolving patterns of abuse.

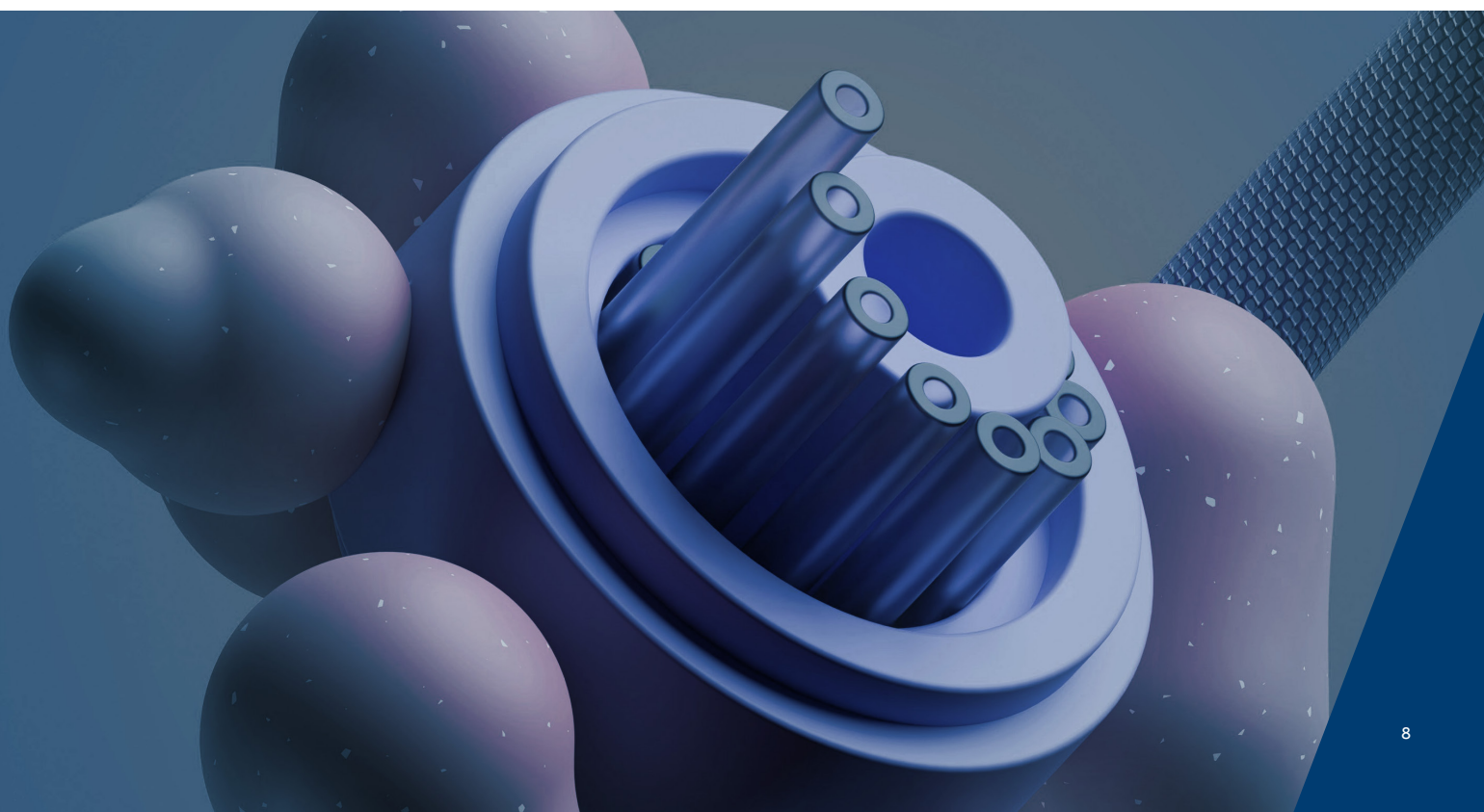


Problem statement two

Detection of instances of complex market abuse: How can AI identify signals or instances of more complex types of market abuse, involving the analysis of multiple datasets, that traditional rules-based surveillance tools currently struggle to identify.

Sub-considerations

- **Cross-product analysis:** Identifying activity whereby trading in one product is undertaken with the intention of impacting the price of a related product. Using AI to identify correlations on a systematic and ongoing basis of different products and identify suspicious trading behaviour.
- **Cross-market analysis:** Analysing data from multiple trading venues to detect market abuse activity, e.g., activity on one venue undertaken with the intent of artificially influencing or impacting a related product on another venue.

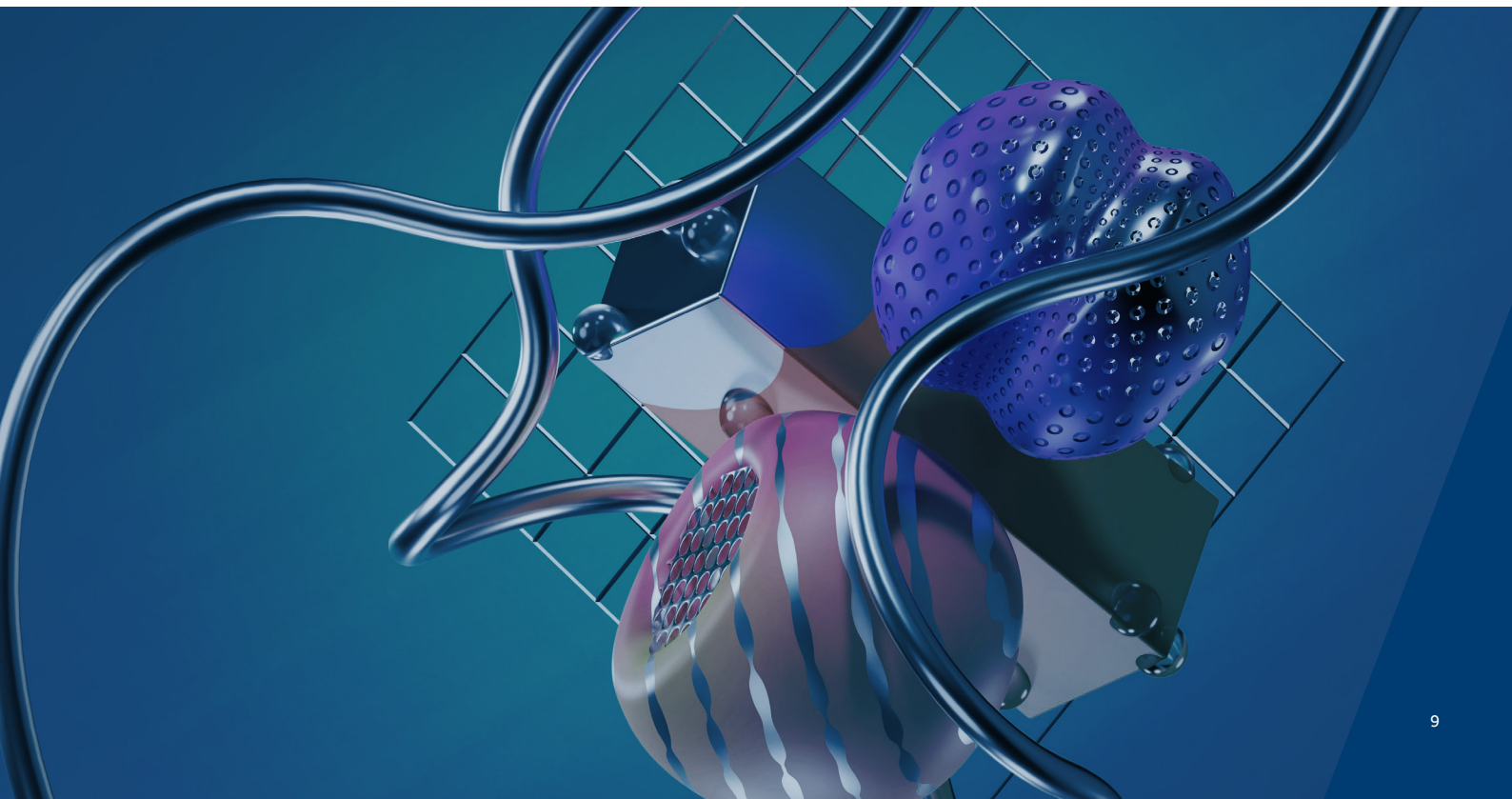


Problem statement three

Transforming market abuse surveillance by incorporating anomaly detection: How can AI help identify previously undetected anomalies indicative of market abuse, manipulative strategies, and disruptive trading practices that may give market participants an unfair advantage.

Sub-considerations

- Analysing historical market data, trading behaviours, news events, and other data sources to develop models or algorithms that can proactively flag potential instances of market abuse.



When submitting your application, please make sure you are clear on the problem statement that you have chosen to address, with an overview of your proposed solution. While we do not expect you to have a comprehensive solution at the start, you should be able to provide an example of how you plan to tackle your chosen problem statement and the gap you are trying to address with your solution.

For all problem statements, solutions should take a user-centric approach, ensuring propositions or designs that are easy to use and understand for a diverse range of users. Similarly, the principles of *inclusivity*, *transparency*, and *ethical use of data* should be at the core of all the solutions.

The data

We will be providing our TechSprint participants with access to the following datasets:

- 1. Transaction Reporting**
- 2. Orderbook**
- 3. News Feeds**
- 4. Price Feeds**

The Transaction Reporting data set provided is not identical to what the FCA receives via MDP (Markets Data Processor) submissions. Some fields are added to aid /enriched with analysis and some fields have been removed. We have also undertaken work to pseudonymise the data. Where a field has been pseudonymised, this will be indicated in the data dictionary. Pseudonymisation of text fields will be consistent across both data sets allowing information to be joined up from both sources. Transactions for instruments that have been judged to have too few participants have been removed the data set to ensure sufficient pseudonymisation.

Participants will be able to access data through Sandpit on the Digital Sandbox platform, however, will not be able to take the data out of the platform. We will cover detailed instructions in the Bootcamp and provide data dictionaries for each of the above datasets. Participants will be given an instance with a standard size of compute and storage with specific details being shared nearer the event. The instance will be running on AWS infrastructure and initially have internet connectivity allowing packages and other prerequisites to be installed. After the initial setup window finishes, the instances will lose internet connectivity and the datasets listed above will be pushed into your instances.

What role(s) could you play within your own teams?

Each TechSprint requires a diverse mix of participants to encourage breadth and depth in terms of the solutions. Throughout the TechSprint, we encourage and expect your own personalities to shine within your teams.

For this TechSprint, where you are applying as a participant, you will be applying as a fully formed team, with a minimum of 2 team members and a maximum of 6 members.

We are therefore keen to see teams made up of some of the following attributes. Note, one person can take on multiple roles and you are not expected to fulfil each and every one of the following roles - this is mainly an indicative guide to help build your team:

The Visionary (Innovative Ideas Person)

You bring a seed of an idea and build a team around it. You are creative and have a flair for innovation. You know how to shape the design to make the moving parts fit together seamlessly.

The Jugglers (SCRUM Masters)

Every team needs a juggler! You will help ensure the smooth running of the event for your team. You will unblock the blockers, facilitate collaboration within the team and work with the FCA TechSprint team to feed back progress and highlight any issues.

The Expert (Markets Expert / Surveillance Specialist)

You have expertise and in-depth knowledge of the problem statement themes. This knowledge shapes the product to avoid pitfalls and to find niches that add advantages. You ensure that the tech will be viable for the end users.

The Psychologist (Behavioural Expertise)

You have expertise or an interest in shining a light on behavioural insights and bringing a truly human-centred focus to the problem statements. You are able to identify the role that biases have to play, and you steer the development of solutions by accounting for behaviours, characteristics, and personas.

The Doctor (Workflow Expert)

A key resource, you help to determine the advantages of the solution and why it's going to be successful. You understand how the solution would get operationalised in the business context and are able to provide an incisive level of detail into the key challenges that the solution would solve if adopted.

The Face (Design & Display)

You bring a focus on the user experience and can provide steers in terms of the design. You bring in the right transitions, you make the demos engaging and easy to understand, and you bring in a creative flair to the idea. You are a key player in making sure the user flow works correctly.

The Data Fluent (Data Experts)

As a central player in the team, you are able to work well with data to be able to find patterns and are prepared to manipulate it for good. You feel comfortable working with the APIs and the datasets provided, as well as any open source data. You're able to tell a story with numbers and data, and can bring it all together to form a compelling narrative.

The Closer (Marketing Guru)

You know how to sell anything to anyone. You spin product descriptions to be irresistible commodities. You'll have just a few minutes to convince the judges that your solution is the best.

The Fixers (Technical Support)

There most probably will be technical issues that happen during the TechSprint. Fixers can help to overcome these hurdles, find workarounds and cultivate solutions. This resource would usually be floating or as additional role to one above.

Building your application

To help us bring in the strongest applications we ask that you:

- Complete the registration form by 18 March, giving as much information as possible about relevant experience and initiatives in this space
- Provide an overview of what problem statement you will address, and how your proposed solution fills a gap in the current market
- Share any additional resources and expertise you may require across the months so we can match you with the relevant experts
- Confirm you are able to commit to the TechSprint Demo Day on 20 June at the FCA offices. This will be in person.
- Let us know if you have any additional requirements or adjustments to help you take part. TechSprints are inclusive events and we aim to accommodate requests

To give yourself the best chance of being selected, below are a few guidelines:

- **Make sure you have considered any inherent conflicts of interest your firm has with regard to any incentive to misuse the data, make these clear in the application form, and set out how these will be managed throughout the TechSprint**
- Make sure your application is clear in how it addresses your chosen problem statement
- Provide details around the exact value-add, and what is the main focal point for your solution
- Provide a high level overview of the potential risks of the solution and how those risks could be mitigated
- Any examples or case studies that you can share, either from personal experience or through your research, that emphasises the importance of your solution
- In no more than 5 points, summarise how your solution is unique in addressing the challenges set out in your chosen problem statement

Following the closure of the application period we will:

- Review the applications and inform you on whether your application has been successful by 22 March 2024
- Provide full onboarding instructions for the TechSprint kick off and bootcamp event on 25 March 2024

We are committed to ensuring diversity at our TechSprints, so ask organisations who are nominating participants to please consider this when applying.

The spirit of the event

Collaboration

TechSprints are open events, bringing together a range of industry participants and stakeholders. We expect participants to be open to working with other participants.

Balanced participation

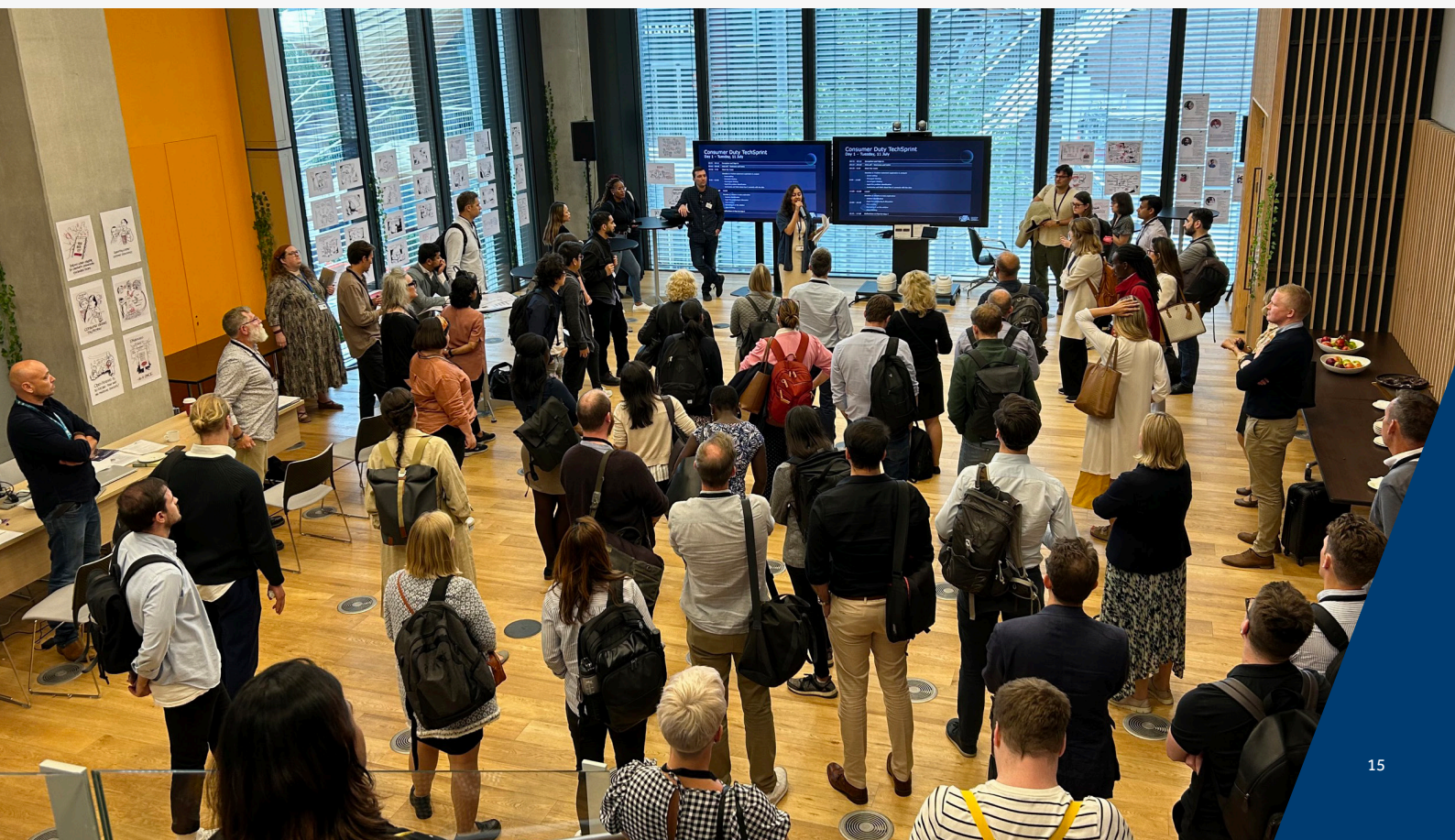
We aim to provide opportunities for a diverse group of entities to participate in the event and encourage participation across various industries e.g., tech firms, RegTechs, academia, consultancies, think tanks etc.

Logistics

Participants will be required to self-fund any participation in the event including any travel and accommodation.

Intellectual property

TechSprints are ideation events, and we ask that you participate as collaborative inventors. Participation means engaging in the spirit of the event by pitching innovations developed at the end of the event. You retain the IP rights for your solution, and we expect you to take it forward to implementation following the TechSprint. You may collaborate with other participants and choose to partner up on the implementation and delivery of your solutions.



Communications approach and guidelines

We are supportive of participants discussing their involvement in our TechSprints.

Announcement of participants

We expect to be able to confirm and announce participants of the TechSprint by 22 March 2024.

Social media

Once participants are confirmed and announced by us, participants can share supporting communications via social media, as well as during and after the TechSprint using *#fcasprint #MarketAbuseTechSprint*

Press

Any wider communications (including digital content or press releases) that refer to the TechSprint must be agreed with the FCA Press Office prior to release.

Nature of participation

Participants are asked not to use of the term “partnership” in any communications, including social media, but to use “collaboration”.

Privacy

No reference to other firms’ data is to be made via firms’ communications.

How to be involved

We will be focusing on the topics set out above and the FCA will play a central co-ordination role in establishing the teams. We are keen to discuss at an early stage the roles and capabilities you could bring as a potential participant.

-

To apply to take part in this TechSprint as a participant, please visit the link below and complete registration no later than 18 March 2024 giving as much information as you can. We expect to be able to confirm and announce participants of the TechSprint by 22 March 2024.

There will also be opportunities of involvement through the roles of mentor or observer. Mentors will work across the participating teams throughout the TechSprint, sharing their subject matter expertise through 1-1's or through broader teach-ins to all TechSprint participants. Mentors will also be expected to attend the TechSprint Demo Day on 20 June so if you are interested in both mentorship and observer routes, please select the mentor option on the registration page.

Alternatively, if you are interested in seeing how the efforts of the Market Abuse Surveillance TechSprint culminate, you can register as an observer to attend the Demo Day on 20 June at the FCA offices. Please note places are limited and we will confirm the status of your registration.

[Visit our event page and register your interest](#)

© Financial Conduct Authority 2024
12 Endeavour Square London E20 1JN
Telephone: +44 (0)20 7066 1000
Website: www.fca.org.uk

All rights reserved