



# Novel Operation in a Specific Trial Area (NOSTrA) Approach

# Introduction

This document provides non-binding, good practice guidance to enable innovators to try out novel and innovative aviation technologies and operations in a sustainable manner, in UK airspace.

The CAA is increasingly being asked to support the deployment of new aviation technologies and operations, such as the development of dedicated drone routes or the deployment of novel air vehicles including cargo and passenger carrying drones over urban areas. The introduction of new technologies and operations may mean that impacts are felt by people who have not previously been affected by aviation or by people who will be subject to different impacts from those they are used to.

New impacts could include:

- Noise concentration around places where drone landings and take-offs take place;
- Noise or other environmental impacts for those overflown;
- Airspace sharing considerations for other airspace users;
- Privacy concerns resulting from low-level overflights and use of optical and other sensors; and
- Increased cyber security risks due to increased reliance on networked technologies.

New aviation technologies and operations are subject to safety regulation by the CAA. In most circumstances, few other permissions are required because in most cases novel operations do not require a formal change to airspace design, nor do they have the potential to affect existing aircraft traffic patterns. As a result, there is no current formal obligation to follow the usual processes for a change in airspace design, which include consideration of the impacts on other stakeholders<sup>1</sup>.

In the CAA's experience, those affected by the manner in which airspace is used are less likely to oppose its use if they have had a real opportunity to air their views on the matter and those views have been listened to properly. Transparency about what the public can expect from a trial and why is key to its potential success. The CAA considers the successful public acceptance of these novel operations to constitute a form of 'social licence'<sup>2</sup>, which is key to the sustainability and future scalability of these novel operations.

To support this the CAA has developed a new approach known as the Novel Operation in a Specific Trial Area (NOSTrA). NOSTrA is:

- An outcomes focused approach.
- Underpinned by core principles.
- Best practice to maximise public acceptance.

This is a new approach to novel operations and the CAA expects NOSTrA to develop over time with input from sponsors<sup>3</sup> and the public.

In many cases the CAA is required to consider requests for permissions or exemptions to enable the requested aerial activities to take place. Those requests are independently considered by the appropriate CAA regulatory team and are separate from the good practice guidance of the NOSTrA approach.

- 1 Any potentially interested party in a proposed operation.
- 2 The ongoing acceptance of an innovation sponsor and operating procedures by its employees, stakeholders and the general public.
- 3 An organisation that proposes a novel or innovative operation within UK airspace.

# NOSTrA Principles

## Definition

A NOSTrA is a proposed operation in UK airspace which aims to test a novel or innovative technology or business model within the UK, but which does not require any form of change to airspace design.

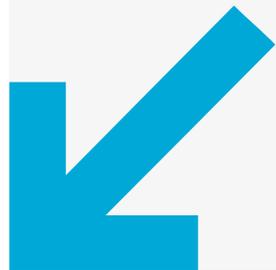
Indications that an operation is novel or innovative could include:

- Being closer to the public and the ground than conventional aviation operations.
- New environmental impacts, such as noise from drones.
- Interacting with their environments in a manner not previously exercised in the UK (including the use of distributed electric propulsion and highly autonomous systems).
- Collection of large amounts of data (including potentially private data).
- Interacting with other regulated markets including energy and other infrastructure.

## Principles

The NOSTrA approach is undertaken in accordance with a set of core principles. At all times innovation sponsors should be guided by the following principles:

Principle	Explanation
Public safety	At all times, the innovation sponsor's responsibility is to maintain high levels of public and consumer safety, security and economic protection.
Transparency and Openness	It should be clear to stakeholders how they could be affected by an operation in terms of safety, environmental, security and privacy issues. Potentially affected stakeholders should feel confident that their voice has a place in the process.
Accessibility	Accessible proposals are good proposals. Everything innovation sponsors build should be as inclusive, legible and readable as possible.
Evidence-based	Data should drive decision-making, not hunches or guesswork. Gathering data should be an essential part of any proposal, easy to read and widely shared. Where decisions are made by the innovator they should be clearly recorded and explained.
Stakeholder needs	Proposal design starts with identifying potentially affected stakeholders and their concerns. If innovation sponsors don't know what the stakeholder needs are, they won't build the right thing. Innovators should do research, analyse data and talk to stakeholders.
Integrity	To maintain trust sponsors must act with integrity in all aspects of their operations.



# NOSTrA Approach



## Conceptualise

Innovation sponsors should consider and develop their proposal in accordance with the NOSTrA principles.

The output of this stage should be a Concept of Operations document in a format to allow any stakeholders (including the CAA) to easily understand the proposal and its objectives.



## Plan

The sponsor prepares a detailed trial plan and supporting documentation which sets out clearly what the innovation sponsor plans to do in practice, the objectives of the operation and who may be affected by it both in the air and on the ground.

Sponsors should also consider issues such as noise, security and any other non-aviation regulatory issues such as privacy in the trial plan. Additional guidance on these areas is annexed to this document.

The sponsor should share the trial plan publicly at the next stage of the process and the trial plan must be aligned to the NOSTrA principles.



## Engage

Sponsors should give stakeholders a real opportunity to air their views on the trial and ensure those views have been listened to properly; and change the trial if necessary.

### Advertise

Ensure the right stakeholders know about the NOSTrA by advertising, including:

- Direct mail to identified affected stakeholders; and
- Local advertisements.

### Be Accessible

Allow people to communicate through multiple channels, remembering not everyone can access the internet.

### Consider

- Email addresses;
- Online forms and comment fora;
- Social media;
- Public meetings and engagement sessions; and
- Postal addresses.

### Explain and Listen

- Provide information to the full range of stakeholders that will be impacted well before the trial commences;
- Take into account the feedback received and change the trial if appropriate; or explain why the trial does not need to change; and
- Prepare to undertake regular stakeholder engagement (including with the CAA) throughout the trial.



## Implement & Analyse

Once any necessary regulatory approval has been obtained the sponsor then commences the trial in practice.

During and after implementation the innovation sponsor should:

- Continue to engage with stakeholders and listen to feedback;
- Share any learnings with the CAA or other key stakeholders as the trial progresses (including Air Navigation Service Providers or other regulators);
- Provide feedback to stakeholders on the outcomes of the trial; and
- Collate, monitor and share with the CAA (and any other relevant regulators) any feedback received throughout the trial period.

This stage will produce an evidence-base which will support the innovation sponsor in determining the next steps and support future applications for regulatory approvals or trial operations with similar features.

Innovation sponsors should consider the extent to which they successfully delivered their trial in line with the NOSTrA principles.



## Principles

At all times Innovation Sponsors are to be guided in their actions by the principles of: **Public Protection, Transparency and Openness: Accessibility, Evidence-based, Stakeholder needs and Integrity**

# Annex A and B

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## Annex A: Noise Assessment

Innovation sponsors should consider:

- Developing a qualitative description of changes to traffic patterns (illustrated using operational diagrams overlaid on Ordnance Survey maps or similar) diagrams should be of enough detail for those affected to identify where they live in relation of the changes in traffic pattern;
- Provide details of the frequency of flights and typical altitudes;
- Provide details of the typical noise levels at key locations (take-off and landing sites, delivery points etc);
- Develop an outline of how the noise impact of the trial operation will be bench marked and measured before and during the trial; and
- How those affected by noise from the trial can provide feedback to the innovation sponsor.

If applicable to the operation these considerations should be publicised to stakeholders.

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## Annex B: Referral to the Information Commissioner's Office

The Information Commissioner's Office (ICO) is the UK regulator for data protection and privacy.

Article 35(1) of the GDPR requires in certain circumstances that during the initiation of a proposed operation the innovation sponsor undertakes a Data Privacy Impact Assessment (DPIA). Guidance on these assessments can be found

Where a sponsor conducts a DPIA and identifies a high risk which it cannot do anything to mitigate, prior consultation with the ICO is required under the General Data Protection Regulation (GDPR). In such circumstances Sponsors cannot go ahead with the data processing component of their proposal until they have consulted the ICO.

In certain cases, the CAA may be able to facilitate a sponsor's engagement with the ICO.

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