



# Consultation: Review of UK Unmanned Aircraft Systems (UAS) Regulations

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## Foreword

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Unmanned Aircraft Systems (UAS) are playing an increasingly important role in our society. They are being used to provide public services that improve our lives. Many businesses are harnessing the value of UAS in their day-to-day operations.

However, the UAS sector is changing. UAS technology is becoming more advanced and more widely available. Demand for services involving UAS is growing. In addition, the context in which UAS operate is changing. For example, our airspace is becoming busier, and the threats to the security of our airspace are evolving.

These changes are resulting in increased safety and security risks from UAS. Data available to the Civil Aviation Authority (CAA) highlights the volume and severity of incidents that involved UAS, and the trends over time. Consequently, it is the view of the CAA and government that UAS regulation will need to evolve to match these changing risks. This is why the Department for Transport has sponsored the CAA to review UK UAS regulation, and to develop recommendations for how UAS regulation should be improved.

This consultation sets out how we propose to change UAS regulation in the future. These proposals aim to make UAS regulation easier for users to comply with, by simplifying regulation and improving understanding. In addition, they aim to make greater use of technical mitigations placed on UAS – for example, preventing a UAS from entering restricted airspace using geo-fencing functionality, as well as relying on UAS pilots to understand airspace restrictions. They also aim to support the UAS sector, through creating a more effective regulatory framework that enables the UAS sector to flourish.

The feedback provided to this consultation will enable the CAA to develop policy recommendations that help create a world-leading regulatory environment for UAS. I encourage you not to miss this opportunity to help shape the future of UAS regulation.

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## Executive Summary

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Unmanned Aircraft Systems (UAS) are forming an increasingly significant part of society – delivering transformational benefits to businesses and providing services that improve lives. External analysis estimates the UAS sector could contribute up to £45bn to the UK economy by 2030, through enabling businesses to transform and creating new jobs<sup>1</sup>. UAS play a key role in the government’s Future of Flight programme<sup>2</sup>, enabling these benefits to be unlocked.

However, increased adoption of UAS may lead to an increase in safety and security risks. These risks could be caused by UAS flying dangerously close to people, buildings, objects or aircraft, transporting illegal substances, or capturing sensitive personal data without consent, amongst others. There is clear evidence that some of these risks have already materialised. Between November 2020 and October 2023, police received 18,290 reports of drone flights involving a legal, nuisance, criminal or safety concern. Police received 5,005 such reports between 1<sup>st</sup> January and 6<sup>th</sup> October 2023 - a 10% increase over the same period in 2022.<sup>3</sup>

At present, UAS regulatory requirements are primarily borne by UAS operators and pilots. In the future, we intend to place regulatory requirements on the manufacturing of UAS. This aims to make UAS safe and secure by design, mitigating risks before they materialise. Subsequently, this will make it easier for users to comply, and harder for negligent or malicious users to cause harm.

The Department for Transport (DfT) have sponsored the CAA (Civil Aviation Authority) to review UK UAS regulations, to identify and recommend improvements to the regulatory framework. These changes aim to help unlock the benefits of UAS, whilst ensuring we continue to mitigate safety and security risks in a robust way.

In August 2023, we published a Call for Input that set out 15 opportunities to improve UAS regulation. The Call for Input received 2,629 responses. These responses validated our view that there are opportunities to improve UAS regulation. However, feedback also provided support for some of the key foundations of regulation we have retained from EU legislation, such as operational categories and class-marking. We have therefore developed our proposals to maintain existing regulatory structures, and to address targeted safety, security or user concerns.

This consultation includes a wide range of proposals that could impact the UAS sector. To help simplify regulation for UAS users, we are proposing to simplify complex operational requirements, re-name operational sub-categories, and replace ambiguous exclusions for ‘toy’ UAS with more objective criteria. We also aim to increase education and understanding of the regulations, through expanding flyer education requirements to remote pilots of <250g UAS, digitalising the regulatory information provided to users when they first use a UAS, and

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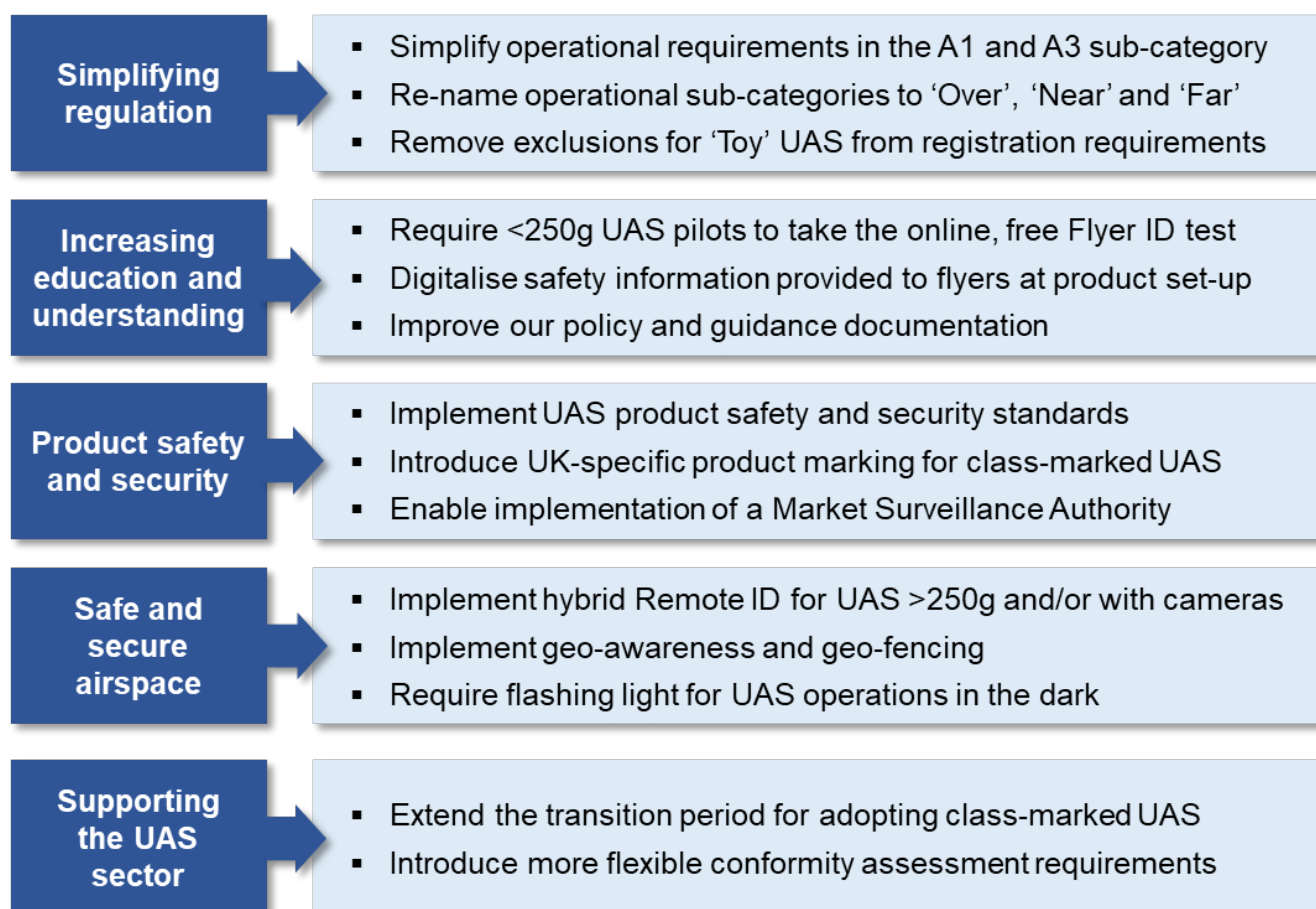
<sup>1</sup> <https://www.pwc.co.uk/issues/technology/drones/the-impact-of-drones-on-the-uk-economy.html>

<sup>2</sup> <https://www.gov.uk/government/publications/flightpath-to-the-future-a-strategic-framework-for-the-aviation-sector>

<sup>3</sup> This data has been collated by the NPCC Counter Drone team from police forces and other agencies

improving our policy and guidance documents.

To improve UAS product safety and security, we propose to implement product standards from 1<sup>st</sup> January 2026 through a system of class-marking, aligning to international regulations where it is in the UK's interests. To maintain the security of our airspace, we are proposing for UAS to communicate location and identification data during flight (Remote ID) – i.e. digital number plates for UAS. We are also proposing to mandate functionality that prevents UAS entering restricted airspace without appropriate permissions (geo-awareness and geo-fencing). Finally, we aim to support the UAS sector by allowing UAS operators in the Open category until 2028 to adopt class-marked UAS, and by introducing more flexibility in conformity assessment requirements for UAS manufacturers. These proposals are summarised below.



These proposals build upon retained EU legislation for UAS in several places, including our proposals for operational requirements, geo-fencing, and Remote ID. These changes will simplify and strengthen regulations, enabling a world-leading, future-proofed regulatory environment for the UAS sector to grow. We welcome responses from the UAS community by 23:59 10<sup>th</sup> January 2024. A consultation reply document, including a summary of feedback and our final recommendations, will be published next year. The proposals set out in this consultation constitute the CAA's current view on possible changes to the relevant regulatory framework. If legislative change is required to deliver these proposals, we will submit our formal opinion to the Department for Transport, who will in turn consider whether to implement our proposed changes in a Statutory Instrument.

## Chapter 1

# Introduction

This chapter sets out the context of the CAA's review of UK UAS regulation and this consultation. It summarises the benefits we are aiming to enable and the risks we aim to mitigate. It sets out our five strategic objectives – simplifying regulation, increasing education and understanding, product safety and security, safe and secure airspace, and supporting the UAS sector. Finally, it highlights the importance of consultation feedback, and provides a summary of how to respond.

## Context

- 1.1 UAS are forming an increasingly significant part of our society – delivering transformational benefits to business and improving lives. Over recent years, UAS have matured from niche innovations into mature technologies that facilitate many day-to-day services we rely on. UAS are already being used to enable emergency healthcare, help police capture criminals, help businesses collect information and provide a range of delivery services.
- 1.2 Over the coming years, we expect the UAS sector to grow as even more individuals and businesses harness their benefits. This will support our economy to grow and create new jobs, benefitting us all. External analysis predicts that drones could save businesses up to £22bn a year and contribute up to £45bn to the UK economy by 2030. UAS could enable up to 270,000 jobs<sup>4</sup>.
- 1.3 However, the widespread availability of UAS has already created safety and security risks that can have widespread ramifications. Some of these risks have been widely publicised, such as UAS flying near airport runways or in other Flight Restriction Zones. Other risks posed by UAS are less well publicised, but are observed today by the CAA, government and police. These include UAS used for reconnaissance of targets for criminality, transporting illegal substances into restricted sites, capturing images of sensitive sites (e.g. live crime scenes, traffic accidents, schools or national security sites), enabling stalking and harassment, and flying dangerously (e.g. directly above traffic or near emergency service helicopters<sup>5</sup>).
- 1.4 Data provided by the police and government demonstrate that these risks have already materialised and are growing. Since November 2020, police have received 18,290 reports of drone flights involving a legal, nuisance, criminal or safety concern. In the first 9 months of 2023, police received 5,005 reports - a 10% increase over the same period in 2022<sup>6</sup>. In the 6 weeks following 23<sup>rd</sup> September 2023, the CAA received 558 reports<sup>7</sup> of UAS operating within a Flight Restriction Zone (FRZ) or outside a FRZ but

<sup>4</sup> <https://www.pwc.co.uk/issues/technology/drones/the-impact-of-drones-on-the-uk-economy.html>

<sup>5</sup> <https://www.bbc.co.uk/news/uk-england-leeds-67131440>

<sup>6</sup> Data collated by the NPCC Counter Drone team from police forces and other agencies. Up to 6<sup>th</sup> October 2023.

<sup>7</sup> Alleged Breach of Air Navigation Legislation (ABANL) reported by Air traffic controllers.

over 400ft. Between January and October 2023<sup>8</sup>, 9 UAS have been reported operating between 6,000 and 13,000 feet<sup>9</sup>.

- 1.5 The impacts of these risks go beyond just safety and security – they also require significant public resources to manage, cause disruption to lives and businesses, and compromise the viability of the commercial UAS sector. The closure of Gatwick airport in 2018 was estimated to cost the police £459,000, the airport between £1.4m and £15m, and the airlines over £35m.<sup>101112</sup>
- 1.6 At present, UAS regulation is primarily borne by UAS operators and remote pilots. For example, UAS remote pilots must understand where they are allowed to fly, and to plan and execute UAS flights accordingly. In the future, we can make it easier for UAS operators and remote pilots to comply, through placing requirements on manufacturers to ensure UAS are safe and secure by design – for example, through requiring UAS to have functionality that prevents flights taking place in restricted airspace.
- 1.7 The CAA’s view is that there are opportunities for UAS regulation to be simplified, strengthened and communicated more effectively. Through placing technical mitigations on the functionality of a UAS, unsafe or insecure actions can be prevented at source. We can also use technology to make it easier for police to identify and take action against malicious UAS operators – providing a stronger deterrent for non-compliance and creating a safer airspace for the aviation sector to benefit from.
- 1.8 The Department for Transport (DfT) has sponsored the CAA to review UK UAS regulation, and to identify and recommend potential regulatory changes. As part of this review, we published a Call for Input to seek views on 15 opportunities to improve UAS regulation. The Call for Input received 2,629 responses. These responses validated our view that there are opportunities to improve UAS regulation. However, feedback also provided support for some of the key foundations of regulation we have retained from EU legislation, such as operational categories and class-marking. We have therefore developed our proposals to maintain existing regulatory structures, whilst proposing targeted changes where there is a safety, security or user benefit.
- 1.9 This consultation sets out our proposed changes to UAS regulation. These proposals have been informed by responses to the Call for Input, alongside other analysis and evidence available to the CAA, such as security and safety data.
- 1.10 Our view is that the coming years are the ideal time to update UAS regulations, enabling the sector to benefit from increased regulatory stability and certainty in the future. Whilst we recognise that there has been much regulatory change for UAS in recent years, changes must be progressed before 2026 to implement the class marking framework for the Open Category. Through these changes, we aim to create a globally-leading, future-proof regulatory framework that enables the UAS sector to

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<sup>8</sup> Up to 23<sup>rd</sup> October 2023

<sup>9</sup> Data provided from UK Mandatory Occurrence Reporting to CAA

<sup>10</sup> [Gatwick drone disruption cost over £50m | The Independent | The Independent](#)

<sup>11</sup> [Gatwick drone policing costs 'shocking' - BBC News](#)

<sup>12</sup> [Christmas drone chaos cost Gatwick just £1.4m \(telegraph.co.uk\)](#)



deliver transformational benefits to businesses and lives.

- 1.11 To better understand this consultation, you may wish to refer to the current UAS regulations that may be affected by these proposals. You can find the regulations on our website<sup>13</sup>, including their associated Acceptable Means of Compliance and Guidance Material.

## Our Strategic Objectives

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- 1.12 The proposals in this consultation aim to deliver 5 strategic objectives:

- **Simplifying regulation:** UAS operators and remote pilots need to be confident that they are compliant before flying their UAS. However, users can find regulation difficult to understand, due to its breadth, complexity and communication in places. This can prevent UAS from being used with confidence, and increase non-compliance. It can also create challenges for authorities to enforce regulation. By making regulation simpler to understand and comply with, it will be more effective.
- **Increasing education and understanding:** For regulation to be effective, UAS users need to understand regulatory requirements and what they need to do to comply. However, survey data demonstrates that understanding of regulations is lower than it could be. For example, only 21% of surveyed drone users had awareness of the 400ft UAS height restriction, without prompting<sup>14</sup>. We aim to help UAS users better understand regulations through greater education and more effective communication.
- **Product safety and security:** At present, there are no UAS-specific product requirements. We aim to ensure products are safe and secure by design, to minimise the likelihood and impact of UAS causing harm. It will also make it easier for users to comply with regulations, by preventing misuse from taking place at all.
- **Safe and secure airspace:** The widespread availability of UAS and advances in UAS technology present a real threat to the safety and security of our airspace. Whilst regulation exists today to prevent UAS operators and remote pilots misusing UAS, more robust solutions will help prevent misuse and enable action to be taken when unlawful activity occurs.
- **Supporting the UAS sector:** Effective regulation will be essential to enable the UAS sector to deliver value to society. The CAA has an important role in helping the UAS sector transition to new regulatory frameworks, and ensuring the regulatory burden and cost of compliance is proportionate, particularly for amateur users. We are aiming to help the sector transition more smoothly, whilst delivering the targeted benefits.

- 1.13 Beyond these strategic objectives, the CAA has also taken steps to improve the

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<sup>13</sup> <https://www.caa.co.uk/uk-regulations/aviation-safety/basic-regulation-the-implementing-rules-and-uk-cao-amc-gm-cs/uas-rpas/>

<sup>14</sup> <https://publicapps.caa.co.uk/docs/33/CAA%20Drone%20Tracker%202023%20-%20may%2023.pdf>

efficiency of operations in the Specific category, including implementing SORA (Specific category Operational Risk Assessments), flightworthiness assessment and a new remote pilot competency framework. These proposals are presented more fully in separate consultations.

- 1.14 In addition, the Airspace Modernisation Strategy sets out a shared vision for the modernisation of UK airspace, including proposals to enable routine beyond visual line of sight (BVLOS) operations and promote the integration of UAS into our airspace.<sup>15</sup>

## Document Summary

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- 1.15 This consultation takes the following structure:

- Chapter 1 sets out the context of the CAA's review of UK UAS regulation. It provides an overview of our strategic objectives and the structure of this document.
- Chapters 2 to 6 consider each strategic objective in turn and set out our proposed changes to UAS regulations. Each proposal includes a summary of relevant feedback provided in the Call for Input (if applicable) and our rationale.
- Chapter 7 summarises the consultation and how to respond. It highlights that the Department for Transport will consider our recommendations in full, before deciding whether to implement our proposals.

- 1.16 In addition to the main consultation document, we have also published a summary of responses to the Call for Input.

## Responding to this Consultation

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- 1.17 The consultation process is an integral part of CAA and government's policy development approach, allowing us to understand the impact of policy changes on stakeholders. We welcome responses to the consultation from any stakeholder impacted by these proposals, including recreational and commercial UAS remote pilots/operators, UAS manufacturers, and UAS service providers, amongst others. We particularly welcome feedback on Appendix A from businesses impacted by our proposals, which requests information on the costs and benefits of these proposals.

- 1.18 The consultation is open until 23:59 10<sup>th</sup> January 2024. Responses can be provided via Citizen Space.

- 1.19 Once the consultation has closed and we have considered feedback, we will publish our consultation reply document. This will summarise the feedback and set out our final proposed policy positions. If legislative change is required to deliver these proposals, we will submit our formal opinion to the Department for Transport, who will consider whether to implement our recommendations in a Statutory Instrument.

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<sup>15</sup> <https://www.caa.co.uk/commercial-industry/airspace/airspace-modernisation/airspace-modernisation-strategy/about-the-strategy/>

## Chapter 2

## Simplifying Regulation

This section sets out proposals to simplify UAS regulation, aiming to make regulation more suitable for users in the Open category. Whilst we propose to maintain the current framework of operational categories and sub-categories, we are proposing to address particularly complex requirements within these frameworks, and to make naming of operational sub-categories more descriptive. We are also proposing to remove current exclusions for ‘toy’ UAS from certain registration requirements, relying instead on UAS weight to determine the scope of registration requirements. Collectively, these proposals aim to make regulations more suitable for Open category users, and easier to comply with.

### Operational Requirements

- 2.1 At present, operational requirements are structured through a system of categories (i.e. Open, Specific and Certified) and sub-categories (i.e. Open A1, A2 and A3), reflecting the characteristics of the operation. The Call for Input presented opportunities to simplify operational requirements in the Open category.
- 2.2 Responses to the Call for Input raised concerns with the proposals to simplify how operational requirements are categorised (Question 5). Overall, 33.3% of responses were positive, and 59.7% were negative. Respondents generally favoured maintaining the system of categories and sub-categories, although there was some recognition of the complexity of existing regulation, and the benefits of making regulations simpler.
- 2.3 We agree with stakeholders who submitted that the framework of operational categories and sub-categories remains broadly appropriate and who challenged the costs of changing. However, we also consider there to be opportunities to make targeted improvements to operational requirements that UAS users could find confusing. Specifically:
  - (i) Currently, all flights in the A1 sub-category cannot take place over groups of uninvolved people, but UAS <250g and C0 UAS can fly over uninvolved individuals. C1 UAS (<900g) must reduce, as much as possible, flights over uninvolved persons. Our view is that this complexity could make it harder for UAS remote pilots to understand and comply with this requirement. **We are proposing to allow C1 UAS to overfly uninvolved people**, whilst maintaining the requirement not to overfly groups of uninvolved people. This would, in effect, harmonise requirements for flying over uninvolved persons in the A1 sub-category for different types of UAS. Over the coming months, we will assess the safety implications of this approach.

- (ii) At present, the regulation only explicitly allows C0 and C1 UAS to fly in the A1 sub-category. **We are proposing to explicitly allow C0 and C1 UAS to fly in the A3 sub-category.** Whilst this will not impact the actual operational privileges for these UAS, it will clarify that C0 and C1 can be used in these sub-categories, and help CAA communicate how class-marks relate to operational requirements.
- (iii) The current operational requirements for flights in the A3 sub-category do not specifically define a minimum distance a UAS must fly from an uninvolved person. However, guidance material (e.g. CAP2012 and AMC/GM) sets out that a minimum distance of 50m should be maintained from uninvolved persons. **We are proposing to introduce a regulatory requirement in the A3 sub-category for UAS to fly a minimum of 50m from uninvolved persons.** This aims to avoid confusion for users by aligning regulation with current guidance.
- (iv) At present, the operational requirements for flights in the A3 sub-category limit distances to residential, commercial, industrial or recreational *areas* to 150m. The CAA interpretation of this requirement, published within guidance material, sets out that this also includes distance to individual *buildings*. The difference between the guidance material and the regulatory requirements may create confusion for operators flying near individual buildings. **We are proposing to change the regulatory requirement for flights in the A3 sub-category to be at least 150m away from residential, commercial, industrial, recreational areas and buildings.** Flights taking place closer than 150m to individual buildings in the Open category will continue to be subject to A1 or A2 sub-category requirements.

**Question 1:** *Do you agree or disagree with our proposal to allow C1 UAS to fly over uninvolved people in the A1 sub-category, aligning to regulations for C0 and <250g UAS? Please explain your answer.*

**Question 2:** *Do you agree or disagree with our proposal to explicitly allow C0 and C1 UAS to fly in the A3 sub-category? Please explain your answer.*

**Question 3:** *Do you agree or disagree with our proposal to align regulatory requirements in the A3 sub-category to current guidance to fly UAS a minimum of 50m from uninvolved persons? Please explain your answer.*

**Question 4:** *Do you agree or disagree with our proposal to align regulatory requirements in the A3 sub-category to current guidance to fly a minimum of 150m from residential, commercial, industrial, recreational areas or buildings? Please explain your answer.*

## Operational Category Names

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- 2.4 The Call for Input set out that the names of operational categories (Open, Specific, Certified) and sub-categories (A1, A2, A3) are perceived as confusing and unintuitive for some users. We asked whether it would be beneficial to re-name operational categories, to make them easier for users to understand (Question 4).
- 2.5 Responses to this question were mixed, as 45.6% were positive and 44.1% were negative. Some responses provided limited support for changing category names (e.g. Open, Specific), but greater support for changing sub-category names (e.g. A1, A2, A3). Many stakeholders specifically recommended changing the sub-category names to 'Over', 'Near' and 'Far'.
- 2.6 Our view is that changing the operational sub-category names to be more intuitive and meaningful will help users understand and recall UAS regulations, resulting in increased compliance. **We are proposing to change the names of UAS sub-categories from A1, A2, and A3, to 'Over', 'Near' and 'Far'.** These revised names aim to reflect the key operational differences between each sub-category – i.e. the distance to uninvolved persons.
- 2.7 We have also considered alternative names for sub-categories, reflecting potential risk-profile (e.g. Low, Medium, High Risk) or complexity of operation (e.g. Basic, Advanced). Our view is that these alternatives do not appropriately convey the key parameters of each operational sub-category and may lead to further confusion. However, we welcome feedback from stakeholders on any alternative names we should consider.
- 2.8 We agree with respondents who submitted that Open, Specific and Certified are well-embedded in the sector. We therefore do not propose to change the name of operational categories.

**Question 5:** *Do you agree or disagree with our proposal to re-name the A1, A2, A3 operational sub-categories to 'Over', 'Near' and 'Far'? Please explain your answer, including any other names you would suggest.*

**Question 6:** *Do you agree or disagree with our proposal to maintain existing names for Open, Specific and Certified operational categories? Please explain your answer.*

## Operational Exclusions

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- 2.9 At present, some UAS - such as toys or UAS <250g - benefit from exclusions from some operational requirements, including registration, remote pilot competency and safety requirements. The Call for Input considered whether to simplify operational requirements by removing some of these exclusions.

- 2.10 Feedback to this question (Question 7) was moderately supportive, as 54.3% of responses were positive, and 36.7% of responses were negative. Changes to exclusions for ‘toy’ UAS received more positive feedback due to the ambiguity of the definition of ‘toy’. However, changes to exclusions for <250g UAS were received less favourably, due to a perceived lack of risk from these UAS, despite their widespread adoption.
- 2.11 Our view is that the exclusion for ‘toy’ UAS from registration and remote pilot competency requirements is confusing for users and enforcement bodies. This is due to the lack of standard marking for ‘toy’ UAS, and the ambiguous criteria for what is considered a ‘toy’ – such as whether it was advertised or packaged to attract children. For some users, this could result in non-compliance and the unsafe and insecure operation of their UAS. In the future, this will likely be exacerbated further when both toy and non-toy UAS will be required to meet C0 class-marking requirements, making it even harder for UAS users to differentiate between what is and isn’t a ‘toy’.
- 2.12 We also recognise that UAS technology is evolving, to become smaller, cheaper and more capable. Consequently, the risks associated to some ‘toy’ UAS are also changing. We aim to ensure our regulatory framework is fit for the future, as technology evolves.
- 2.13 **We are proposing to remove the exclusions from registration and remote pilot competency requirements for ‘toy’ UAS operations** – instead, relying wholly on weight and/or class-mark to determine the scope of requirements. This change will result in operators of UAS <250g with cameras needing an Operator ID, irrespective of whether it is a ‘toy’ or not. As is the case today, operators of UAS <250g without cameras will not require an Operator ID. Proposals relating to Flyer ID are discussed in Chapter 3.

**Question 7:** *Do you agree or disagree with our proposal to remove exclusions for ‘toy’ UAS from registration and pilot competency requirements? Please explain your answer.*

**Question 8:** *Are there other opportunities to simplify operational regulation that we should be considering? If yes, please describe them in full.*

## Chapter 3

## Increasing Education and Understanding

At present, UAS operators and remote pilots are subject to a wide range of regulatory requirements. However, our view is that more can be done to help UAS users understand how regulation applies to them. In turn, this should result in increased compliance and reduced safety and security risks from UAS. In this section, we propose to expand existing education requirements to flyers of <250g UAS, and to digitalise how regulatory information is communicated to users during product set-up. Finally, we propose to improve our guidance documentation by phasing out the CAP 722 series in favour of new guidance.

### Flyer Education

- 3.1 At present, remote pilots flying a UAS which is 250g or more must obtain a Flyer ID and take an online theory test. This test, provided free of charge by the CAA, ensures that beginner UAS flyers have a foundational understanding of UAS regulations.
- 3.2 The Call for Input highlighted that remote pilots of UAS less than 250g are currently exempt from some operational requirements, including the Flyer ID test. It noted the increasing capability and availability of <250g UAS and the risks from these UAS – such as entering restricted airspace, flying dangerously close to uninvolved persons, buildings or objects, or unlawfully collecting personal and sensitive data. In response to the Call for Input, some respondents proposed that the Flyer ID test should also be required for pilots of a wider range of UAS.
- 3.3 Our view is that greater education would help UAS pilots know how to comply with the regulations, and would improve the safety, security and compliance of UAS operations. Surveys completed for the CAA show that understanding of some regulatory requirements is below where we would hope. For example, 62% of drone users knew about legal registration requirements, and only 56% of drone users knew that operators of <250g UAS with cameras should be registered with the CAA. In addition, only 21% of drone users had awareness of the 400ft height restriction, without being prompted.<sup>16</sup>
- 3.4 Our view is that requiring a foundational understanding of how to use a UAS safely and lawfully is a proportionate measure, given the risks posed and the wider benefits of a safe, secure airspace. Through encouraging more responsible UAS use by recreational users, we aim to help improve the reputation and acceptance of UAS in wider society, assisting the sector to grow.

<sup>16</sup> <https://publicapps.caa.co.uk/docs/33/CAA%20Drone%20Tracker%202023%20-%20may%202023.pdf>

- 3.5 We also recognise that the technical capabilities of lightweight UAS have increased significantly over time and are likely to increase further. This changes the safety and security mitigations required.
- 3.6 **We are proposing to extend the requirement for a remote pilot to take the Flyer ID test for UAS operations in the ‘Open’ category, to include when flying a UAS less than 250g with and without a camera.** As is described in Chapter 2, we also propose to remove exclusions for ‘toy’ UAS from these requirements.
- 3.7 We recognise that miniature UAS (e.g. <100g) without cameras pose negligible safety and security risks, and previously would have been considered ‘toys’ in most cases. We welcome views on whether we should introduce a minimum weight threshold, in the region of 50g to 100g, to exclude miniature UAS from these requirements.
- 3.8 Beyond the Flyer ID test, we have also published a consultation on changes to the pilot competence framework in the Specific category. These proposals aim to create a comprehensive competency framework for advanced UAS operations, enabling Beyond-Visual-Line-of-Sight (BVLOS)<sup>17</sup>

**Question 9:** *Do you agree or disagree with our proposal to require remote pilots of <250g UAS to take the online Flyer ID test? Please explain your answer.*

**Question 10:** *Should the CAA introduce a minimum weight threshold, in the region of 50g – 100g, that aims to exclude miniature UAS from Flyer ID requirements? Please explain your answer.*

## Product Guidance

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- 3.9 Under the UK Regulation (EU) 2019/945<sup>18</sup>, manufacturers must provide an information notice to users, alongside the UAS. In practice, this could be a leaflet included in the product packaging that describes the safety and security mitigations users should carry out when operating a UAS.
- 3.10 The Call for Input presented an opportunity to improve how user guidance is communicated, by requiring manufacturers to convey regulatory information during product set-up via the controller app or other user interface. Responses to the Call for Input (Question 16) were largely in support of this proposal, as 78.4% were positive and 13.4% were negative. Some negative responses submitted that introducing mandatory information notices for every flight, without the option to skip the notification, would be burdensome for experienced flyers.
- 3.11 Our view is that users are likely to be more responsive to information displayed via

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<sup>17</sup> <https://consultations.caa.co.uk/rpas/remote-pilot-competency-rpcwg/>.

<sup>18</sup> ‘UAS Implementing Regulation (EU) 2019/945 as retained (and amended in UK domestic law) Under the European Union (Withdrawal) Act 2018’ in full.



the user interface or controller app, compared to a physical leaflet. Providing this information digitally could also have wider benefits, such as enabling accessibility features to help those with disabilities and updates to reflect any changes in guidance.

- 3.12 **We are proposing to require C0, C1, C2 and C3 UAS to display important regulatory information, via a digital information notice, on the user interface or controller app during the product set-up.** However, we also agree with Call for Input respondents, who argued that more frequent displays of this information would inconvenience experienced fliers. As such, we do not propose to require manufacturers to display the digital information notice more frequently.
- 3.13 The digital information notice could include key messages on the registration processes, safety mitigations, flyer competency requirements, airspace restrictions and data privacy. We would expect to prescribe the guidance text to UAS manufacturers, with a supporting requirement for UAS to present the information in a user-friendly and accessible way. This aims to encourage manufacturers to present the information impactfully, without being overly prescriptive in terms of the format.
- 3.14 If the UAS does not have a digital user interface or controller app, manufacturers could continue to provide user guidance as a physical information notice that is included in the box. This aims to prevent imposing a disproportionate burden on UAS manufacturers that do not have the capability to provide digital information notices.
- 3.15 There may be scenarios where the CAA wishes to update the digital information notice, or to communicate safety information to UAS flyers through the user interface or controller app. For example, this could be to communicate changes to regulation, or to issue guidance based on new safety risks. We are considering how to future-proof this proposal, including whether to require manufacturers to keep the digital information notice up-to-date, or to issue information to flyers at the request of the CAA.

**Question 11:** *Do you agree or disagree with our proposal to require manufacturers to present important regulatory information on the user interface or controller app to C0-C3 UAS users at product set-up? Please explain your answer, and consider whether manufacturers should update the digital information notice or communicate safety information to UAS flyers at the request of CAA. Please explain your answer.*

## Policy and Guidance Documentation

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- 3.16 Regulations should be organised, presented and communicated clearly to users, to ensure requirements are understood. Today, regulatory requirements contained primarily in UK Regulation (EU) 2019/945, UK Regulation (EU) 2019/947<sup>19</sup> and the Air Navigation Order 2016 are supported by other sources of information including the CAA website, the Drone and Model Aircraft Code<sup>20</sup>, the CAP 722 series<sup>21</sup> and supporting Acceptable Means of Compliance (AMC) and Guidance Material (GM).
- 3.17 The Call for Input recognised that the complexity of the current document structure could make it harder for some users to understand how to comply. Responses to the Call for Input (Question 18) largely supported the opportunity to simplify the policy and guidance document structure, with 90.7% providing a positive view.
- 3.18 We recognise the challenges raised by stakeholders on the CAP 722 document series, and the potential duplication with the AMC and GM. This can make it difficult for users to know which documentation to consult, how the documents inter-relate, and the legal status of guidance. In addition, the regulatory changes proposed in this consultation and the implementation of SORA in the Specific category will result in significant changes to the CAP 722 guidance material. Therefore, **we are proposing to phase out the CAP 722 series over time.**
- 3.19 However, we understand that phasing out the CAP 722 series will create a gap in the supplementary guidance available in the Open and Specific categories. Subject to ongoing analysis, **we are proposing to absorb relevant information from the CAP 722 series into AMC/GM and to create new, digital guidance material.** The purpose of this new guidance will be to provide information using non-technical language, that is easy to understand and navigate.

**Question 12:** *Do you agree or disagree with our proposal to phase out the CAP 722 series and introduce new, user-friendly guidance material? Please explain your answer.*

**Question 13:** *Are there other opportunities to improve education and understanding that we should be considering? If yes, please describe them in full.*

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<sup>19</sup> 'UAS Implementing Regulation (EU) 2019/947 as retained (and amended in UK domestic law) Under the European Union (Withdrawal) Act 2018' in full

<sup>20</sup> The Drone and Model Aircraft Code: [The Drone and Model Aircraft Code | UK Civil Aviation Authority \(caa.co.uk\)](https://www.caa.co.uk/Drone-and-Model-Aircraft-Code)

<sup>21</sup> CAP 722: Unmanned Aircraft System Operations in UK Airspace – Guidance: [CAP 722: Unmanned Aircraft System Operations in UK Airspace - Guidance \(caa.co.uk\)](https://www.caa.co.uk/CAP-722)

## Chapter 4

## Product Safety and Security

There are currently no UAS-specific product safety and security regulations implemented in the UK. Product requirements will be essential in preventing harm from UAS and making it easier for users to comply. This section puts forward several proposals aiming to increase the safety and security of UAS. These proposals include implementing product standards and class-marking, and implementing a UK-specific product marking to help differentiate between products sold under UK and EU jurisdictions. It also includes proposals to support the implementation of the Market Surveillance Authority function.

### Class Marking and Product Standards

- 4.1 The framework for Open category product standards is referred to as ‘class marking’ and is based on retained EU law. Whilst the regulation exists in UK Regulation (EU) 2019/945, compliance is not yet possible due to a lack of product standards and oversight regime. As such, no UAS-specific product requirements have been implemented in the UK yet.
- 4.2 The Call for Input highlighted the important role of product standards in mitigating safety and security risks from UAS. Through placing technical mitigations within UAS, it will make it easier for users to comply and help prevent misuse. Responses to the Call for Input were strongly supportive of our proposal to implement manufacturer standards (Question 7), with 78% of respondents supporting the proposal. In addition, many respondents proposed that our approach should align with EU legislation. There was minimal support for implementing significantly different approaches to those used in the EU, due to the impacts of international divergence.
- 4.3 Our view is that product standards will be essential to deliver our policy objectives, ensuring that UAS meet a minimum level of safety, security and performance. In turn, we would expect that this would reduce the safety and security incidents from UAS and help build confidence in the UAS sector. **We are proposing to implement class-marking and product standards from 1st January 2026 for UAS intended to be used in the Open category.** In effect, manufacturers and other economic operators placing UAS on the market for use in the Open category would need to meet class-marking requirements from this point.
- 4.4 We recognise the benefits of international alignment. However, we also consider there to be areas where divergence is in the UK’s interests. **We are proposing to align to EU regulations for class-marking and product standards, unless there is a safety, security or user benefit that requires divergence.** Chapters 3 and 5 describe specific proposals that diverge from EU regulations, relating to Remote ID, geo-fencing, and user guidance. In addition, we are proposing to:

- **Update requirements for tethered UAS<sup>22</sup>**, to improve product safety and harmonise requirements across tethered UAS. Specifically, we propose to align requirements across C1, C2 and C3 UAS to exempt tethered UAS from command-and-control link protection and link recovery requirements. We also propose to require tethered UAS to have Remote ID.
- **Require C0 and C4 UAS to have a unique serial number**, to enable the CAA and other bodies to identify and manage conformity of these UAS.
- **Remove requirements for C5 and C6 UAS intended for use in the Specific category**, given that these will not be used in future regulation.

4.5 To deliver this regulation in practice, the Secretary of State will need to designate technical standards that have been adopted by the British Standards Institute (BSI). Manufacturers who adopt these designated standards would have a presumption of conformity against regulatory requirements. The CAA and BSI will work with the Department for Transport to identify the technical standards that could be used by manufacturers to demonstrate compliance. Appendix B provides a table of the standards we intend on assessing.

**Question 14:** *Do you agree or disagree with our proposal to implement class-marking and product standards? Please explain your answer, and provide any further feedback on the technical standards we intend on assessing, if possible.*

**Question 15:** *To what extent should the UK align to the EU regulatory framework for product requirements? Please explain your answer.*

**Question 16:** *Do you agree or disagree with our proposed changes to product requirements, as set out in paragraph 4.4? Please explain your answer.*

## Product Labelling and Identification

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4.6 The Call for Input considered whether to introduce a product labelling scheme for class-marked UAS, over and above the class identification label requirements (e.g. C0, C1 etc.) currently in the regulation for class-marking. Most respondents were supportive of product labelling, with 78% responding positively. However, some respondents advocated for use of the class identification label retained in legislation and used in the EU. Some respondents questioned whether an additional labelling scheme, as well as EU class identification label, would be confusing.

4.7 We agree with the stakeholders who submitted that an additional labelling scheme may create confusion. We recognise that the intended benefits could be delivered through improving how the current labelling scheme and class marking requirements are communicated.

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<sup>22</sup> In this context, tethered means securely attached via a physical link to a person, the ground or an object

- 4.8 However, as is described in the above section, we do not expect to fully align to EU product requirements in all cases, and the UK and EU may diverge further over time. Consequently, EU class identification labels cannot be an enduring solution to physically identify compliant products under the UK jurisdiction. Using the same label as the EU would introduce practical challenges for stakeholders to understand whether the product is compliant under the UK or EU jurisdictions, or both.
- 4.9 **We are proposing to replace the EU class identification label with a UK-specific identification label.** We expect that replacing the letter 'C' with 'UK' provides the simplest solution (i.e. replacing C1 with UK1). We believe this proposal is necessary to ensure class identification labels can be used to demonstrate compliance with the regulations under the UK and/or EU jurisdictions.

**Question 17:** *Do you agree or disagree with our proposal to use UK-specific class identification labels on class-marked UAS, to differentiate between UAS compliant under UK and EU legislation? Please explain your answer.*

## Market Surveillance

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- 4.10 To implement class-marking and product standards, new capabilities will be required to manage conformance and compliance. This includes the creation of a Market Surveillance Authority (MSA). The MSA is a key role defined in UK Regulation (EU) 2019/945, responsible for overseeing compliance with product standards and acting when there is non-compliance. The Secretary of State is responsible for appointing a MSA. The CAA is working with the Department for Transport to consider whether the CAA or an alternative organisation should take this role.
- 4.11 We are also considering which organisation is most appropriate to approve and manage the organisations responsible for providing conformity assessment against product standards ('Conformity Assessment Bodies'). Whilst the regulation currently requires the Secretary of State to approve and manage Conformity Assessment Bodies, we consider other organisations may be more appropriate – such as the CAA, or the organisation acting as the MSA. This would require regulatory change.
- 4.12 **We are proposing to introduce a requirement on manufacturers to provide information to the MSA on UAS product codes, make, model, and relationship to serial numbers, when products are placed on the market.** This will allow the MSA to identify the make and model of UAS from their Remote ID message. It will enable the MSA to identify specific models of drones that may be involved in potential incidents and take appropriate mitigating action.

**Question 18:** *Do you agree or disagree with our proposed approach to enable the implementation of a MSA? Please explain your answer.*

**Question 19:** *Are there other opportunities to improve UAS product safety and security that we should be considering? If yes, please describe them in full.*

## Chapter 5

## Safe and Secure Airspace

Whilst UAS provide many benefits, there are also significant safety and security impacts from negligent and deliberate misuse of UAS. This section proposes to implement Remote ID for UAS, enabling UAS operators to be remotely identifiable during flight. It also proposes to use geo-awareness and geo-fencing functionality to protect against UAS entering restricted airspace. Collectively, these mitigations aim to prevent safety and security risks from materialising, and to enable appropriate action to be taken when UAS are used maliciously. They complement our proposals in the Airspace Modernisation Strategy to enable safe integration of UAS into our airspace.

### Remote ID

- 5.1. Remote ID is the ability of a UAS to communicate identification and location information during flight. The requirement for Remote ID already exists in UK Regulation (EU) 2019/945 and 2019/947 but is yet to be implemented. The Call for Input described the important role of Remote ID in improving the ability to identify individuals misusing UAS and in enabling enforcement. In addition, it discussed how Remote ID could be implemented in practice and potential changes to the regulation.
- 5.2. 60.7% of responses to the Call for Input were negative, and 15.3% responses were positive. Respondents raised concerns regarding data privacy implications, and Remote ID's effectiveness in delivering improved security. Respondents with positive views recognised the benefits from identifying unlawful operators.
- 5.3. Data available to the CAA, government and police provides conclusive evidence of the severity and scale of safety and security risks posed by the misuse of UAS. Since November 2020, police have received 18,290 reports of drone flights involving a legal, nuisance, criminal or safety concern. In the first 9 months of 2023, reports are 10% higher than the same time last year<sup>23</sup>.
- 5.4. The CAA, Home Office, Department for Transport and Police maintain the view that the security benefits of Remote ID will be important in preventing unlawful UAS operations and enabling UAS regulations to be enforced. Specifically, Remote ID will:
  - Support the police and other relevant authorities to identify malicious UAS operators and take appropriate action.
  - Enable the police to differentiate between malicious and negligent UAS operations, and focus resources on those that pose the greatest threat.
  - Promote increased compliance, by increasing accountability from UAS users.

<sup>23</sup> Data collated by the NPCC Counter Drone team from police forces and other agencies. Up to 6<sup>th</sup> October 2023.

- 5.5. Our view is that Remote ID is a proportionate intervention, due to the scale of security risks presented by UAS misuse and the low impact of Remote ID to operators who fly UAS safely and securely. Remote ID is an established technical solution implemented by several international governments and national aviation authorities, including in the EU, USA, Switzerland and Japan, demonstrating the important role Remote ID has in protecting airspace globally.
- 5.6. Remote ID could also provide safety benefits, through promoting increased compliance with safety requirements. Data collected by Remote ID will also provide valuable safety and operational information to the CAA, allowing us to develop policy based on actual UAS operational data.
- 5.7. Several respondents to the Call for Input submitted that geo-awareness and/or geo-fencing would provide a more effective mitigation against misuse of UAS. Whilst we recognise the significant benefits of these mitigations, we also consider that they will not be effective in all cases – for example, for malicious UAS operations taking place in un-restricted airspace.
- 5.8. **We are proposing to implement Remote ID through product and operational requirements.** The key parts of our proposal are as follows:
- (i) **Technical approach:** Remote ID requires UAS to transmit the operator's registration number, serial number, position, altitude, route, speed and position of the pilot or take-off point. This data could be readable through a mobile phone near to the UAS (e.g. via Wi-Fi/Bluetooth, referred to as 'direct' Remote ID). Data could also be passed to a database over a network (referred to as 'network' Remote ID), providing real-time and historical visibility.

Our view is that Hybrid Remote ID (i.e. network and direct) offers the optimal solution for the UK. The Network Remote ID would be the default approach, and would enable the remote tracking of UAS and historic investigations when a connection to the network is possible. The direct element would provide a 'back-up' in areas of poor connectivity or in situations where the network is down.

More specifically, UAS operators would register themselves on DMARES and receive their Operator ID (and a 'secret key' used for validation). UAS operators would set up their UAS, inputting their Operator ID and secret key and ensure the required form of Remote ID is enabled based on their location for their UAS to be able to take off. For Network Remote ID, the UAS (or Ground Control Station) would transmit a standard set of data on the UAS position and the remote pilot position to a Network Remote ID Service Provider. The Remote ID Service Providers would push the UAS flight data to the Master Data Hub. UAS flight data would be ingested and stored in the Master Data Hub and made available to Authorised Users where access controls permit. Where Direct Remote ID only is permitted, the UAS would first attempt to connect to the Network, and should this not be possible, would be able to take off with Direct Remote ID enabled.

Appendix B also sets out the technical standards we are considering for manufacturers to demonstrate compliance with this requirement.

- (ii) **UAS in scope:** Remote ID is proposed to be mandated for all UAS with a maximum take-off mass of 250g or more, or under 250g with a camera, in both the Open and Specific category. This recognises the safety and security risks from these UAS, and the increasing technical capabilities of light-weight UAS with cameras in particular. C0 UAS without cameras and C4 UAS would not be in scope of product requirements.
- (iii) **Operational requirements:** UAS operators and remote pilots would also be subject to operational requirements to ensure UAS in scope are operated with active Remote ID. This aims to provide an additional layer of assurance that Remote ID is being used.

Operators of privately-built UAS weighing 250g or more, or with a camera, would be required to have active Remote ID, delivered via an add-on module, unless a Model Aircraft exemption has been granted, as described below in paragraph 5.8.viii.

- (iv) **On-device enforcement:** We propose to implement technical mitigations that ensure Remote ID is active before a UAS takes flight. This aims to prevent unlawful UAS users from disabling UAS before operations and undermining the security benefits of Remote ID.

We recognise concerns raised around how Network Remote ID would work in areas of poor connectivity. A proposal we are considering is to define Remote ID zones, where the UAS would require active Network Remote ID to fly in certain geographic areas. In other areas, where security risks are lower and mobile connectivity may be poor, operations would be allowed with Direct Remote ID enabled, provided that the UAS must first attempt to enable Network Remote ID.

- (v) **Legislative enforcement:** To promote compliance with these requirements, it is necessary for the police to have the ability to take action against operators who do not comply with Remote ID, or who attempt to tamper with or spoof a Remote ID transmission. To enable legislative enforcement of Remote ID requirements, we expect to create new offences in legislation for non-compliance with these requirements.
- (vi) **Data privacy, security and access:** The Call for Input highlighted concerns from UAS users regarding the impact of Remote ID on data privacy. Our approach to data privacy would be compliant with the Data Protection Act 2018 and therefore GDPR principles. More specifically, we will ensure that personally identifiable information, such as Operator ID, is not made available to the general public, and is protected by robust security controls.

Under Network Remote ID, service providers would not display the pilot or ground



control station's location - this would be viewable by authorised persons only, such as the police. The pilot or ground control station location data would be visible to those able to receive and interpret Direct Remote ID data, as it is not technically possible to encrypt this data to only be viewable by certain user groups. The pilot's location will therefore only be available publicly if Network Remote ID is not enabled.

It is proposed that authorised organisations such as the police and prisons would have access to the Remote ID data, with the police having access to operator details when necessary.

To address data privacy concerns raised in the Call for Input, we are proposing to work with stakeholders to develop and publish a data privacy, security and access policy. We expect this to include details on what information is shared with who, how data is communicated, the security mitigations used to prevent unauthorised access to data, and the requirements to protect the storage of personal data.

- (vii) **Legacy UAS:** The current operational requirements allow legacy (i.e. non-class marked) UAS to be operated in the A1 and A3 sub-category indefinitely. Our view is that these regulations for legacy UAS would undermine the benefits of Remote ID, by allowing malicious operators to operate lawfully without Remote ID indefinitely, and by reducing the ability for police to differentiate between lawful, negligent and criminal operations. We are therefore proposing to require legacy UAS to be operated with active Remote ID from 1st January 2028 onwards (excluding UAS <250g without cameras). This requirement could be met through either remotely upgrading a UAS with inactive Remote ID capabilities, or through users attaching a compliant Remote ID add-on module to their device.
- (viii) **Model Aircraft:** We recognise the good safety record of Model Aircraft flying in the UK, and the importance of Model Aircraft to many hobbyists. However, our view is that a blanket, unconstrained Remote ID exemption for all Model Aircraft flying would make UAS regulations challenging to enforce and create inconsistent security outcomes, due to the wide range of locations and aircraft currently used for Model Aircraft flying. Our aim is therefore to find a proportionate approach that supports the Model Aircraft community to fly safely and securely, without undermining the security benefits we aim to achieve through Remote ID.

We are proposing for safe and secure Model Aircraft flights to be exempt from Remote ID requirements. Under our proposed approach, Model Aircraft flights would be exempt from Remote ID requirements, if:

- a. The aircraft meets the CAA's definition and specification for exempt Model Aircraft;
- b. The pilot and UAS remain within the bounds of a designated Model Aircraft flying site, authorised by the CAA based on proximity to urban, sensitive or

restricted sites; and

- c. The flight takes place within a Model Aircraft club, with an authorisation granted under Article 16 of UK Regulation(EU) 2019/947.

This approach is similar to that taken by the Federal Aviation Authority (FAA) in the USA<sup>24</sup>. In practice, the detailed definition of Model Aircraft and criteria for designated flying zones would need to be established in parallel to this consultation, in collaboration with Model Aircraft stakeholders. These would be developed to ensure that flights taking place without Remote ID are limited to locations and aircraft that pose a sufficiently low security risk.

Where these conditions are not met, Model Aircraft flights would be expected to meet the same regulatory requirements as legacy UAS – i.e. to have active Remote ID, delivered via a Remote ID add-on module (unless the aircraft is less than 250g without a camera).

Under these proposals, Model Aircraft that fly at low-risk club or association sites and meet the definition of an exempt Model Aircraft would not be impacted by Remote ID. We expect for this approach to be implemented from 1st January 2028 onwards, aligning to our proposals for legacy UAS.

- 5.9. The CAA has developed these proposals with significant input from the Department for Transport, Home Office and the Police. We will continue to work with our government stakeholders to progress these proposals.

**Question 20:** *Do you agree or disagree with our proposed technical approach to implementing Remote ID? Please explain your answer, and consider our proposed approach of Hybrid Remote ID and on-device enforcement.*

**Question 21:** *Do you agree or disagree with our proposed policy approach to Remote ID? Please explain your answer, and consider our proposed approach to product and operational requirements, legislative enforcement and data privacy, access and security.*

**Question 22:** *Do you agree or disagree with our proposed scope of Remote ID requirements? Please explain your answer, and consider our proposed approach to UAS in scope, legacy UAS and Model Aircraft.*

## Geo-awareness and Geo-fencing

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- 5.10. The Call for Input described two technical mitigations to protect against UAS entering restricted airspace – geo-awareness and geo-fencing. Geo-awareness functionality would alert remote pilots when a UAS is approaching restricted airspace. Geo-fencing functionality provides a stronger mitigation, by preventing the UAS from entering

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<sup>24</sup> [https://www.faa.gov/uas/getting\\_started/remote\\_id/fria](https://www.faa.gov/uas/getting_started/remote_id/fria)

restricted airspace at all. At present, geo-awareness functionality is part of retained product regulations in UK Regulation (EU) 2019/947, due to be implemented as part of class marking requirements from 1<sup>st</sup> January 2026, whereas geo-fencing is only optional. In addition, UAS remote pilots and operators are also subject to operational requirements to not fly in restricted airspace without the required permission.

- 5.11. Call for Input responses were supportive of using geo-awareness to protect against UAS flying in restricted airspace. Of those who provided a view, 51.7% of responses were positive, whereas 19.7% of responses were negative. However, there were some specific questions and concerns around how geo-awareness would be implemented in practice, including the UAS in scope, the approach for managing permissions to fly in restricted airspace, and how airspace data would be communicated.
- 5.12. Data available to the CAA provides conclusive evidence that there is a real and growing risk to safety and security from UAS operating in restricted airspace. In the 6 weeks following 23<sup>rd</sup> September 2023, the CAA received 558 notifications<sup>25</sup> of a UAS operating within a Flight Restriction Zone or outside a Flight Restriction Zone but over 400ft. In 2023 so far, 9 UAS have been reported operating between 6,000 and 13,000 feet<sup>26</sup>. Real-world incidents include UAS flying within restricted areas near to airports or particularly busy airspace, UAS capturing images of sensitive sites, and UAS used for trafficking illegal substances in to restricted sites, such as prisons.
- 5.13. Our view is that geo-awareness and geo-fencing will be crucial in enabling UAS to operate in UK airspace safely and securely, particularly as our airspace becomes busier with UAS and non-UAS. Without further mitigation, we would expect the number and severity of airspace incidents to increase, as UAS become more advanced and widely available. Whilst requirements placed on UAS remote pilots and operators to not fly in restricted airspace provide some mitigation, our view is that stronger technical mitigations will be required to prevent individuals from negligently or deliberately breaching regulations. We also note that several UAS manufacturers already have implemented geo-awareness and geo-fencing systems, demonstrating the maturity of this technology.
- 5.14. **We are proposing to implement geo-awareness and geo-fencing for UAS.** The key parts of our proposal are as follows:
- (i) **UAS in scope:** We are proposing for C1-C3 UAS and C0 UAS with cameras to be in scope of product requirements, reflecting the safety and security impacts from these UAS entering restricted airspace. UAS used in the Specific category may be subject to similar or other adequate mitigations if required as part of the operational authorisation. We do not expect the requirements to apply to Model Aircraft (including C4 UAS), privately built UAS or C0 UAS without cameras,

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<sup>25</sup> Alleged Breach of Air Navigation Legislation (ABANL) reported by Air traffic controllers.

<sup>26</sup> Data provided from UK Mandatory Occurrence Reporting to CAA, up to 23<sup>rd</sup> October 2023

given the technical challenges of applying this requirement in practice.

- (ii) **Operational requirements:** We are also proposing to place a requirement on UAS operators and remote pilots in the Open category to have an active geo-fencing function during UAS operations of C1-C3 UAS and C0 UAS with cameras, in addition to existing regulatory requirements for geo-awareness to be used. This will provide an additional layer of assurance that UAS operators do not attempt to disable or override this capability during operations.
- (iii) **Legacy UAS:** We do not propose to apply this requirement to legacy UAS operations, given the challenges in applying this retrospectively.
- (iv) **Technical solution:** Our view is that existing technical standards for geo-awareness and geo-fencing can provide an appropriate and harmonised solution for manufacturers to be compliant with these regulatory requirements. Appendix B provides a summary of the technical standards we propose to evaluate.
- (v) **Airspace data:** Current regulation requires operators and remote pilots to ensure geo-awareness data is updated in the UAS, in accordance with Geographical Zones made under Article 15 of UK Regulation (EU) 2019/947. This is supported by requirements for UAS to be able to load and update airspace data. To ensure that geo-awareness and geo-fencing systems are implemented accurately, UAS operators, pilots and manufacturers should be using appropriate sources of airspace data that meet required levels of accuracy, resolution, integrity, traceability, timeliness, completeness, and format. We are proposing to extend these requirements to include any airspace restriction applicable to UAS, and are considering whether additional regulatory requirements, AMC or GM are needed to ensure that appropriate data sources are used.
- (vi) **Scope of airspace restrictions:** To implement geo-awareness and geo-fencing, UAS will be required to receive and maintain airspace data. At present, data regarding *permanent* airspace restrictions is fully standardised and machine-readable via the Aeronautical Information Service. Data regarding *temporary* airspace restrictions (e.g. NOTAMs and AICs<sup>27</sup>) is not. We would expect geo-awareness and geo-fencing functionality to also apply to temporary airspace restriction data. The CAA will continue to work with airspace data stakeholders to standardise how dynamic data is communicated to UAS. We will consider whether changes to flyer education and guidance is needed to ensure UAS operators and remote pilots account for temporary airspace restrictions appropriately.
- (vii) **Airspace access permissions:** Legitimate UAS operations within restricted airspace will require a method to obtain permission. This requires a process for airspace owners to provide permission for UAS flights to take place in restricted

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<sup>27</sup> NOTAM = Notice to Aviation, AIC = Aeronautical Information Circulars

airspace, and for this permission to enable geo-fencing functionality to be overridden temporarily or permanently. Whilst some UAS manufacturers have already implemented bespoke processes for managing permissions to restricted airspace, we expect that greater coordination and standardisation will be needed to execute these processes at scale. Furthermore, we expect that UAS in scope of this proposal should be required to have an airspace access permissions function. Subject to the outcome of this consultation, we will consider in more detail how this permissions function could work in practice further into the future.

- (viii) **Enforcement:** To support the implementation of these proposals, relevant authorities would need the ability to enforce against non-compliance. We are continuing to consider how these requirements could be enforced effectively.

**Question 23:** *Do you agree or disagree with our proposal to implement geo-awareness for UAS? Please explain your answer.*

**Question 24:** *Do you agree or disagree with our proposal to implement geo-fencing for UAS? Please explain your answer.*

## Flashing Light

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- 5.15. We have identified safety and security concerns from UAS flying at night without a light. Whilst there are requirements on C1-C3 UAS to be manufactured with a flashing light, there is no requirement on remote pilots to have this active during flights at night. The requirement to use the flashing light at night was not retained from EU law, due to the timing of EU Exit, and the date that requirement was due to become applicable.
- 5.16. To improve the conspicuity of Open category UAS at night, **we are proposing to require UAS remote pilots to have an active flashing light on their UAS for operations taking place at night.** This would apply to all UAS, irrespective of weight or class.
- 5.17. In practice, UAS operations using C1-C3 UAS would be able to meet this requirement through using functionality in-built within these UAS. UAS manufactured without flashing lights would be able to meet this requirement through using an add-on flashing light, but would otherwise not be permitted to fly in the dark.

**Question 25:** *Do you agree or disagree with our proposal to require remote pilots to have an active flashing light on their UAS for operations at night? Please explain your answer.*

**Question 26:** *Are there other opportunities to promote safe and secure airspace that we should be considering? If yes, please describe them in full.*

## Chapter 6

## Supporting the UAS Sector

The UAS sector will provide a significant contribution to the UK economy, whilst improving the livelihoods of many. However, regulations due to be implemented in 2026 may have some undesirable impacts on the UAS sector, resulting in increased costs for UAS operators and manufacturers. This section proposes to support the UAS sector by extending the transition period for UAS users to adopt class-marked UAS by 2 years after the introduction of class-marking requirements on manufacturers. It also proposes to introduce more flexible conformity assessment requirements for UAS manufacturers. Finally, it discusses the rationale for our proposal to maintain existing regulatory structures for model aircraft.

### Transition Period and Legacy UAS

- 6.1. Article 22 of UK Regulation (EU) 2019/947 states that, until 1<sup>st</sup> January 2026:
- (i) Legacy UAS weighing less than 500g can be operated in the A1 sub-category (over people) if the pilot has an A2 Certificate of Competency.
  - (ii) Legacy UAS weighing less than 2kg can be operated a minimum horizontal distance of 50m from people, if the pilot has an A2 Certificate of Competency.
  - (iii) Legacy UAS weighing less than 25kg can be operated in the A3 sub-category (far from people), if the pilot has a Flyer ID.
- 6.2. In addition, Article 20 sets out that UAS weighing less than 250g can be used in the A1 sub-category indefinitely, and UAS weighing less than 25kg can be used in A3 sub-category indefinitely. These requirements reflect regulatory changes made by the government, following our consultation and recommendation provided in 2022.<sup>28</sup>
- 6.3. In the Call for Input, we asked whether the CAA should change the transitional arrangements for legacy UAS (Question 8). Of those who provided a view, 74.8% of responses were positive, citing the impacts of the current transitional arrangements, such as the costs to UAS operators of needing to replace legacy UAS with new models.
- 6.4. Our view is also that the current transition period set out in Article 22, due to end on 1st January 2026, could create some challenging impacts for the UAS sector. For example, these arrangements could result in some UAS operators needing to replace their aircraft in a short timeframe. It could also have undesirable environmental impacts from many UAS being disposed of earlier than necessary and/or incorrectly, undermining the sustainability of the UAS sector.

<sup>28</sup> <https://consultations.caa.co.uk/corporate-communications/legacy-and-transitional-provision/>

- 6.5. However, we also consider that an indefinite transition period for all legacy UAS may delay the safety and security benefits of class-marked UAS. We expect this to become more important over time, as the UAS sector grows.
- 6.6. **We are proposing to extend the transitional arrangements set out in Article 22 of UK Regulation (EU) 2019/947 to 2 years after the introduction of class-marking requirements on UAS manufacturers – 1<sup>st</sup> January 2028.** This aims to mitigate some of the impacts on the UAS sector of the current arrangements, whilst also ensuring we transition to using safe and secure UAS in a timely manner. It aims to reduce the regulatory burden for UAS users, where possible.
- 6.7. As is described in Chapter 5, we are also proposing to continue to allow the use of legacy UAS under the arrangements of Article 20 (as described in paragraph 6.2), provided that the UAS is flown with active Remote ID from 1<sup>st</sup> January 2028 onwards (excluding UAS <250g without cameras). These proposals are summarised in the below table.

| Legacy UAS:<br>Maximum<br>Take-Off Mass | Up to 31 <sup>st</sup> December 2027 |                |          | 1 <sup>st</sup> January 2028 onwards |           |                |
|---|--------------------------------------|----------------|----------|--------------------------------------|-----------|----------------|
|   | A1 (Over)                            | A2 (Near)      | A3 (Far) | A1 (Over)                            | A2 (Near) | A3 (Far)       |
| 249g or less                            | ✓                                    | ✓ <sup>b</sup> | ✓        | ✓ <sup>c</sup>                       | ✗         | ✓ <sup>c</sup> |
| 250g – 499g                             | ✓ <sup>a</sup>                       | ✓ <sup>b</sup> | ✓        | ✗                                    | ✗         | ✓ <sup>d</sup> |
| 500g – 1.99kg                           | ✗                                    | ✓ <sup>b</sup> | ✓        | ✗                                    | ✗         | ✓ <sup>d</sup> |
| 2kg – 24.99kg                           | ✗                                    | ✗              | ✓        | ✗                                    | ✗         | ✓ <sup>d</sup> |

a = Remote pilot requires A2 Certificate of Competency

b = Remote pilot requires A2 Certificate of Competency; UAS must be minimum horizontal distance of 50m from people

c = UAS with cameras must be operated with active Remote ID

d = UAS must be operated with active Remote ID

- 6.8. We propose to maintain current regulations that, in effect, prevent legacy UAS operations in the A2 sub-category after the transition period. Our view is that this approach remains appropriate, given the increased risks of UAS operations in the A2 sub-category. We also consider that the proposed 2-year transition period provides a reasonable amount of time for UAS operators to replace their legacy UAS.

**Question 27:** Do you agree or disagree with our proposal to extend the transition period for UAS operators to adopt class marked UAS from 1<sup>st</sup> January 2026 to 1<sup>st</sup> January 2028? Please explain your answer.

**Question 28:** How many years should the CAA extend the transition period for operation of non-class marked UAS by? Please explain your answer.

**Question 29:** Do you agree or disagree with our proposal to maintain regulation that, in effect, prevents the use of legacy UAS in the A2 sub-category after the transition period has completed? Please explain your answer.

## Conformity Assessment

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- 6.9. The current regulations for class-marked UAS propose three approaches to conformity assessment: internal production control, type examination, and conformity based on full quality assurance. The first type (internal production control) relies on self-assessment and declaration, and is currently allowed only for C0 and C4 UAS.
- 6.10. The current approach to conformity assessment will provide high degrees of confidence that products meet regulatory requirements. However, we also recognise that requiring C1-C3 UAS to undertake third-party type examination and conformity based on full quality assessment before 1<sup>st</sup> January 2026 may be challenging in practice. This may result in disruption to manufacturers placing products on the market, and to UAS operators obtaining class-marked UAS.
- 6.11. We are considering options to introduce more flexibility into conformity assessment requirements for class-marked UAS. The options we are considering include:
- (i) Allowing C1 to C3 UAS to meet conformity assessment requirements using internal production control, for a temporary period – subject to the UAS undergoing type examination or full quality assurance in the future.
  - (ii) Allowing C1 to C3 UAS to meet conformity assessment requirements using internal production control, for requirements that have undergone type examination by conformity assessment bodies under other jurisdictions.
- 6.12. We welcome feedback from UAS manufacturers and Conformity Assessment Bodies on how we could improve the implementation of conformity assessment for class-marked UAS.

**Question 30:** *What changes should we make to the approach to conformity assessment of class-marked UAS? Please explain your answer.*

## Model Aircraft

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- 6.13. The Call for Input asked what changes we could make to the regulatory framework for Model Aircraft, to support the Model Aircraft community. Potential changes include creating a separate operational sub-category for Model Aircraft and creating a clearer definition for Model Aircraft to differentiate between other UAS.
- 6.14. Of those Model Aircraft flyers who provided a response, 50.6% respondents were neutral, 30.9% were in favour of the proposal and 17.5% were against it. Whilst some Model Aircraft flyers requested significant changes to the regulatory framework (such as removing Model Aircraft from the regulations altogether), others cautioned against the cost, complexity and impact of making substantial changes.
- 6.15. Our view is that, on balance, the costs of change to government, the CAA and the Model Aircraft community outweigh the potential benefits from creating an entirely



new regulatory framework. As such, we intend to maintain the foundations of the current regulatory framework and continue to collaborate with the Model Aircraft community to improve how regulations are applied.

- 6.16. As is described in the Remote ID section, we have worked closely with our security stakeholders to consider how to balance security objectives without over-burdening the Model Aircraft community. Our proposed approach to Remote ID exemptions is set out in full in Chapter 5. This should ensure that low-risk Model Aircraft flights can continue, without being impacted by Remote ID requirements. If this proposal is taken forward, we expect to work closely with the Model Aircraft community to define an appropriate definition for exempt Model Aircraft and approach to locational exemptions.

**Question 31:** *Do you agree or disagree with our proposal to maintain the existing regulatory approach for Model Aircraft? Please explain your answer.*

**Question 32:** *Are there other opportunities to support the UAS sector that we should be considering? If yes, please describe them in full.*

## Chapter 7

# Next Steps and How to Respond

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- 7.1. The consultation process is an integral part of our policy development approach, allowing us to understand the impact of proposed policy changes on our stakeholders. Responses to this consultation will be essential for the CAA to form policy that meets our objectives and can be adopted by stakeholders effectively. We welcome responses to the consultation from any stakeholder impacted by these proposals, including recreational and commercial UAS pilots/operators, UAS manufacturers, UAS service providers, amongst others.
- 7.2. The consultation is open until 23:59 10<sup>th</sup> January 2024. Responses can be provided via Citizen Space.
- 7.3. Once the consultation has closed and we have considered your responses, we will publish our consultation reply document. If legislative change is required to deliver any of the proposals which we consider should be implemented, we will submit our formal opinion to the Department for Transport, who will in turn consider whether to implement our proposed changes in a Statutory Instrument.

## APPENDIX A

## Impact Assessment – Call for Evidence

We are assessing the impact of our proposals on each UAS user group and other stakeholders to inform our recommendations following this consultation. The below tables set out the expected costs and benefits of our proposals to different user groups.

We welcome feedback from UAS stakeholders and businesses involved in the UAS sector on the costs and benefits that apply to them.

|   | Operator / pilot (recreational) | Operator (commercial) | Pilot (commercial) | Manufacturer | Third party (products / services) | Law enforcement | Prisons | General public |
|---|---------------------------------|-----------------------|--------------------|--------------|-----------------------------------|-----------------|---------|----------------|
| Familiarisation time  | ✓                               | ✓                     | ✓                  |              |                                   | ✓               | ✓       |                |
| Training and compliance time  | ✓                               | ✓                     | ✓                  |              |                                   |                 |         |                |
| Applications for exemptions / authorisations  |                                 | ✓                     |                    |              |                                   |                 |         |                |
| Increased time for UAS take-off due to additional checks / reduction in work efficiency |                                 |                       | ✓                  |              |                                   |                 |         |                |
| Retrofit / disposal of existing non-compliant UAS device(s)                             | ✓                               | ✓                     |                    | ✓            |                                   |                 |         |                |
| UAS product development   |                                 |                       |                    | ✓            |                                   |                 |         |                |
| Reduced innovation in UAS products/services   |                                 |                       |                    | ✓            | ✓                                 |                 |         |                |
| Conformity assessment   |                                 |                       |                    | ✓            |                                   |                 |         |                |
| Service / component development   |                                 |                       |                    |              | ✓                                 |                 |         |                |
| Service / component redundancy  |                                 |                       |                    |              | ✓                                 |                 |         |                |
| Increased enforcement obligations due to higher volumes of identifiable UAS             |                                 |                       |                    |              |                                   | ✓               |         |                |

Table 1 – Costs / disbenefits for UAS users and other stakeholders

|  | Operator / pilot<br>(recreational) | Operator<br>(commercial) | Pilot (commercial) | Manufacturer | Third party<br>(products / services) | Law enforcement | Prisons | General public |
|--|------------------------------------|--------------------------|--------------------|--------------|--------------------------------------|-----------------|---------|----------------|
| Increased awareness of obligations   | ✓                                  | ✓                        | ✓                  |              |                                      |                 |         |                |
| Reduced probability of safety incidents  | ✓                                  | ✓                        | ✓                  |              |                                      | ✓               | ✓       | ✓              |
| Reduced probability of security incidents  | ✓                                  | ✓                        | ✓                  |              |                                      | ✓               | ✓       | ✓              |
| Reduced uncertainty of requirements  |                                    |                          |                    | ✓            |                                      |                 |         |                |
| Reduced conformity assessment requirements                                       |                                    |                          |                    | ✓            |                                      |                 |         |                |
| Innovation in UAS products/services  |                                    |                          |                    | ✓            | ✓                                    |                 |         |                |
| UK UAS products and services are transferrable internationally                   |                                    |                          |                    | ✓            | ✓                                    |                 |         |                |
| Additional revenue for new user services   |                                    |                          |                    |              | ✓                                    |                 |         |                |
| Additional revenue for new parts/products  |                                    |                          |                    |              | ✓                                    |                 |         |                |
| Reduced number of intentional security incidents                                 |                                    |                          |                    |              |                                      | ✓               | ✓       |                |
| Reduced time for investigations due improved UAS/user identification             |                                    |                          |                    |              |                                      | ✓               | ✓       |                |
| Reduced probability of incidents due to user error                               | ✓                                  |                          | ✓                  |              |                                      | ✓               |         |                |
| Improved ability to focus on identifying and investigating UAS without remote ID |                                    |                          |                    |              |                                      | ✓               | ✓       |                |
| Trust in UAS sector  |                                    |                          |                    |              |                                      |                 |         | ✓              |

*Table 2 – Benefits for UAS users and other stakeholders*

**Question A1:** Do you agree or disagree with our qualitative categories for costs and benefits across the user and stakeholder groups, set out in Appendix A? Please elaborate if there are other costs and/or benefits we haven't identified.

**Question A2:** What are your current costs across these categories, particularly training/certification, product/service development, and other compliance? Please provide an estimate of costs (£) where possible or qualitative explanations.

**Question A3:** What additional up front or ongoing costs do you expect to incur, in order to comply with these proposals? Please provide an estimate of costs (£) where possible or qualitative explanations.

## APPENDIX B

## Designated Standards

The below table provides a summary of the technical standards that could be designated by the Secretary of State to provide a presumption of conformity against product requirements. The CAA are working with Department for Transport to identify which standards could be used, and we welcome feedback from stakeholders on this initial list.

| <b>Class marks:</b>                    | <b>UK0</b>  | <b>UK1</b>  | <b>UK2</b>  | <b>UK3</b>  | <b>UK4</b>                |
|--|---|---|---|---|---------------------------|
| <b>MTOM:</b>                           | prEN4709-001 (4.1.3)  | prEN4709-001 (5.1.2)  | prEN4709-001 (6.1)  | prEN4709-001-7.1  | prEN4709-001 (8.1)        |
| <b>Max height (operational):</b>       | prEN4709-001 (4.3)  | prEN4709-001 (5.3.1)  | prEN4709-001 (6.2)  | prEN4709-001-7.3  | N/A                       |
| <b>Max. characteristic dimensions:</b> | N/A   | N/A   | N/A   | prEN4709-001-7.2.1  | prEN4709-001 (7.2.1)      |
| <b>Max. speed (operational):</b>       | prEN4709-001 (4.2.1)  | prEN4709-001 (4.2.1)  | N/A   | N/A   | N/A                       |
| <b>Remote ID:</b>                      | prEN4709-002 <sup>1</sup><br>ASTM F3411-22  | prEN4709-002<br>ASTM F3411-22   | prEN4709-002<br>ASTM F3411-22   | prEN4709-002<br>ASTM F3411-22   | N/A                       |
| <b>Geo-awareness:</b>                  | prEN4709-003 <sup>1</sup> /<br>EUROCAE ED 269 <sup>1 2</sup> /<br>EUROCAE ED 318 <sup>1 2</sup> | prEN4709-003 <sup>2</sup> /<br>EUROCAE ED 269 <sup>2</sup> /<br>EUROCAE ED 318 <sup>2</sup> | prEN4709-003 <sup>2</sup> /<br>EUROCAE ED 269 <sup>2</sup> /<br>EUROCAE ED 318 <sup>2</sup> | prEN4709-003 <sup>2</sup> /<br>EUROCAE ED 269 <sup>2</sup> /<br>EUROCAE ED 318 <sup>2</sup> | N/A                       |
| <b>Airspace limitation function:</b>   | prEN4709-003 <sup>1 2</sup>   | prEN4709-003 <sup>2</sup>   | prEN4709-003 <sup>2</sup>   | prEN4709-003 <sup>2</sup>   | N/A                       |
| <b>Lighting requirements:</b>          | prEN4709-004 <sup>1</sup>   | prEN4709-004  | prEN4709-004  | prEN4709-004  | prEN4709-004 <sup>1</sup> |
| <b>Low-speed mode:</b>                 | N/A   | N/A   | prEN4709-001 (6.8)  | N/A   | N/A                       |
| <b>Noise test required:</b>            | N/A   | prEN4709-001 (5.8.3)  | prEN4709-001 (5.8.3)  | prEN4709-001 (5.8.3)  | N/A                       |
| <b>Noise limited:</b>                  | N/A   | prEN4709-001 (5.8)  | prEN4709-001 (5.8)  | N/A   | N/A                       |

| <b>Class marks:</b>                     | <b>UK0</b>                                      | <b>UK1</b>                         | <b>UK2</b>                         | <b>UK3</b>                         | <b>UK4</b>                        |
|---|---|------------------------------------|------------------------------------|------------------------------------|-----------------------------------|
| <b>Max speed (technical)</b>            | prEN4709-001 (4.2.1)                            | prEN4709-001 (4.2.1)               | prEN4709-001 (6.6.2)               | N/A                                | N/A                               |
| <b>Max height (technical):</b>          | prEN4709-001 (4.3)                              | prEN4709-001 (5.3)                 | prEN4709-001 (6.2)                 | prEN4709-001 (5.3)                 | N/A                               |
| <b>No automatic modes allowed:</b>      | N/A   | N/A                                | N/A                                | N/A                                | prEN4709-001 (8.3)                |
| <b>Safely controllable requirement:</b> | prEN4709-001 (4.4)                              | prEN4709-001 (5.4)                 | prEN4709-001 (6.3)                 | prEN4709-001 (7.4)                 | prEN4709-001 (8.2)                |
| <b>Follow me mode:</b>                  | prEN4709-001 (4.7)                              | prEN4709-001 (5.16)                | N/A                                | N/A                                | N/A                               |
| <b>Low level battery alert:</b>         | N/A   | prEN4709-001 (5.1.4)               | prEN4709-001 (6.14)                | prEN4709-001 (7.14)                | N/A                               |
| <b>C2 link protection:</b>              | N/A   | N/A                                | prEN4709-001 (6.7.2)               | prEN4709-001 (6.7.2)               | N/A                               |
| <b>Mech. strength requirement:</b>      | N/A   | prEN4709-001 (5.5)                 | prEN4709-001 (5.5)                 | N/A                                | N/A                               |
| <b>Tethered exemptions:</b>             | N/A   | N/A                                | N/A                                | N/A                                | N/A                               |
| <b>Tether requirements:</b>             | N/A   | EN ISO 2307 <sup>1</sup>           | EN ISO 2307                        | EN ISO 2307                        | N/A                               |
| <b>Unique physical ID:</b>              | EN 4709-002 / ANSI/CTA-2063-A-2019 <sup>1</sup> | EN 4709-002 / ANSI/CTA-2063-A-2019 | EN 4709-002 / ANSI/CTA-2063-A-2019 | EN 4709-002 / ANSI/CTA-2063-A-2019 | ANSI/CTA-2063-A-2019 <sup>1</sup> |

Notes: These standards will be followed with certain specific implementation considerations, which will also be reflected in the test cases. All of the above European standards can be adopted by BSi.

<sup>1</sup> Not required by regulation, but standard could be used in case of a regulatory change

<sup>2</sup> Does not cover Remote ID enforcement by zones.

## APPENDIX C

# Summary of Consultation Questions

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1. Do you agree or disagree with our proposal to allow C1 UAS to fly over uninvolved people in the A1 sub-category, aligning to regulations for C0 and <250g UAS? Please explain your answer.
2. Do you agree or disagree with our proposal to explicitly allow C0 and C1 UAS to fly in the A3 sub-category? Please explain your answer.
3. Do you agree or disagree with our proposal to align regulatory requirements in the A3 sub-category to current guidance to fly UAS a minimum of 50m from uninvolved persons? Please explain your answer.
4. Do you agree or disagree with our proposal to align regulatory requirements in the A3 sub-category to current guidance to fly a minimum of 150m from residential, commercial, industrial, recreational areas or buildings? Please explain your answer.
5. Do you agree or disagree with our proposal to re-name the A1, A2, A3 operational sub-categories to 'Over', 'Near' and 'Far'? Please explain your answer, including any other names you would suggest.
6. Do you agree or disagree with our proposal to maintain existing names for Open, Specific and Certified operational categories? Please explain your answer.
7. Do you agree or disagree with our proposal to remove exclusions for 'toy' UAS from registration and pilot competency requirements? Please explain your answer.
8. Are there other opportunities to simplify operational regulation that we should be considering? If yes, please describe them in full.
9. Do you agree or disagree with our proposal to require flyers of <250g UAS to take the online Flyer ID test? Please explain your answer.
10. Should the CAA introduce a minimum weight threshold, in the region of 50g – 100g, that aims to exclude miniature UAS from Flyer ID requirements? Please explain your answer.
11. Do you agree or disagree with our proposal to require manufacturers to present important regulatory information on the user interface or controller app to C0-C3 UAS users at product set-up? Please explain your answer, and consider whether manufacturers should update the digital information notice or communicate safety information to UAS flyers at the request of CAA. Please explain your answer.
12. Do you agree or disagree with our proposal to phase out the CAP 722 series and introduce new, user-friendly guidance material? Please explain your answer.
13. Are there other opportunities to improve education and understanding that we should be considering? If yes, please describe them in full.
14. Do you agree or disagree with our proposal to implement class-marking and product standards? Please explain your answer, and provide any further feedback on the technical standards we intend on assessing, if possible.

15. To what extent should the UK align to the EU regulatory framework for product requirements? Please explain your answer.
16. Do you agree or disagree with our proposed changes to product requirements, as set out in paragraph 4.4? Please explain your answer.
17. Do you agree or disagree with our proposal to use UK-specific class identification labels on class-marked UAS, to differentiate between UAS compliant under UK and EU legislation? Please explain your answer.
18. Do you agree or disagree with our proposed approach to enable the implementation of the MSA? Please explain your answer.
19. Are there other opportunities to improve UAS product safety and security that we should be considering? If yes, please describe them in full.
20. Do you agree or disagree with our proposed technical approach to implementing Remote ID? Please explain your answer, and consider our proposed approach of Hybrid Remote ID and on-device enforcement.
21. Do you agree or disagree with our proposed policy approach to Remote ID? Please explain your answer, and consider our proposed approach to product and operational requirements, legislative enforcement and data privacy, access and security.
22. Do you agree or disagree with our proposed scope of Remote ID requirements? Please explain your answer, and consider our proposed approach to UAS in scope, legacy UAS and Model Aircraft.
23. Do you agree or disagree with our proposal to implement geo-awareness for UAS? Please explain your answer.
24. Do you agree or disagree with our proposal to implement geo-fencing for UAS? Please explain your answer.
25. Do you agree or disagree with our proposal to require remote pilots to have an active flashing light on their UAS for operations at night? Please explain your answer.
26. Are there other opportunities to promote safe and secure airspace that we should be considering? If yes, please describe them in full.
27. Do you agree or disagree with our proposal to extend the transition period for adoption of class marked UAS by UAS operators? Please explain your answer.
28. How many years should CAA extend the transition period for operation of class marked UAS by? Please explain your answer.
29. Do you agree or disagree with our proposal to extend the transition period for UAS operators to adopt class marked UAS from 1st January 2026 to 1st January 2028? Please explain your answer.
30. What changes should we make to the approach to conformity assessment of class-marked UAS? Please explain your answer.
31. Do you agree or disagree with our proposal to maintain the existing regulatory approach for Model Aircraft? Please explain your answer.



- 32. Are there other opportunities to support the UAS sector that we should be considering? If yes, please describe them in full.
- A1. Do you agree or disagree with our qualitative categories for costs and benefits across the user and stakeholder groups, set out in Appendix A? Please elaborate if there are other costs and/or benefits we haven't identified.
- A2. What are your current costs across these categories, particularly training/certification, product/service development, and other compliance? Please provide an estimate of costs (£) where possible or qualitative explanations.
- A3. What additional up front or ongoing costs do you expect to incur, in order to comply with these proposals? Please provide an estimate of costs (£) where possible or qualitative explanations.

## APPENDIX D

**Abbreviations**

| Abbreviations |  |
|---------------|--|
| AIC           | Aeronautical Information Circulates                  |
| AMC           | Acceptable Means of Compliance                       |
| BVLOS         | Beyond Visual Line of Sight                          |
| CAA           | Civil Aviation Authority                             |
| DfT           | Department for Transport                             |
| FAA           | Federal Aviation Authority                           |
| FRZ           | Flight Restriction Zones                             |
| GDPR          | General Data Protection Regulation                   |
| GM            | Guidance Material                                    |
| JARUS         | Joint Authorities for Rulemaking of Unmanned Systems |
| MSA           | Market Surveillance Authority                        |
| NOTAM         | Notice to Aviation                                   |
| OA            | Operational Authorisation                            |
| OSC           | Operational Safety Case                              |
| OSO           | Operational Safety Objective                         |
| PDRA          | Pre-Defined Risk Assessment                          |
| RPAS          | Remotely Piloted Aircraft Systems                    |
| RAE           | Recognised Assessment Entities                       |
| SAIL          | Specific Assurance & Integrity Level                 |
| SORA          | Specific Category Operational Risk Assessments       |
| UAS           | Unmanned Aircraft Systems                            |