

# Drone Regulation

in United Kingdom

Downloaded on 31 January 2020

# Table of contents

## GENERAL FRAMEWORK

Basic rules and regulators

Classification

## DESIGN AND MANUFACTURE

Registration

Manufacturing authorisation

Product liability

## REGISTRATION AND IDENTIFICATION

Registration

Identification

## CERTIFICATION AND LICENSING

Basic requirements and procedures

Taxes and fees

Eligibility

Remote pilot licences

Foreign operators

Certificate of airworthiness

## OPERATIONS AND MAINTENANCE

One drone, one pilot

Maintenance

Basic operational rules and restrictions

Transport operations

Insurance requirements

Safety requirements

## AIRSPACE

Air traffic control

Restrictions

Take-off and landing

## LIABILITY AND ACCIDENTS

**Cargo liability**

**Third-party liability**

**Accident investigations**

**Accident reporting**

**Safety management and risk assessment**

**ANCILLARY CONSIDERATIONS**

**Import and export control**

**Data privacy and IP protection**

**UPDATE AND TRENDS**

**Sector trends and regulatory developments**

**LAW STATED DATE**

**Correct on**

## Contributors

### United Kingdom



**Peter Neenan**  
pneenan@stewartslaw.com  
*Stewarts*

**STEWARTS**

## GENERAL FRAMEWORK

### Basic rules and regulators

What basic rules govern the operation of remotely piloted aircraft and unmanned aircraft (drones) in your jurisdiction? Which regulatory bodies are charged with enforcing these rules?

The Air Navigation Order 2016 (SI 2016/765) (ANO) is the primary national regulation governing the operation of remotely piloted aircraft and drones in the UK. It has been amended by Air Navigation (Amendment) Orders 2017/1112, 2018/623, 2018/1160 and 2019/261. The UK is currently also subject to European Regulations including the Basic Regulation (Regulation (EU) 2018/1139) and the Standardised European Rules of Air (Regulation (EU) 923/2012).

The ANO as amended includes specific rules governing drone operation in the UK. For drones with a mass greater than 20kg, the drone must comply with all rules within the ANO as if it is a manned aircraft (subject to an exemption from the Civil Aviation Authority (CAA)). Drones weighing 20kg or less are defined as small unmanned drones (article 2) and are automatically exempted from the majority of the provisions of the ANO (article 23). Absent exemptions or permissions allowing derogation from the remaining provisions of the ANO, the reduced provisions cover obligations including conducting safe flight (articles 94(2) and 241), maintaining visual contact (article 94(3)), not flying the drone for commercial purposes (article 94(5)), not flying the drone above 400ft (article 94A(2)), complying with specific airspace restriction over or near aerodromes (article 94(A) and 94(B)) and, in the case of drones used for surveillance or data gathering, restrictions on operation around congested areas, open-air crowds and third parties (objects or people) (article 95).

Permissions and exemptions are obtained by applying to the CAA with evidence of pilot competency and an operating safety case (OSC). The OSC is simply a structured and evidenced case showing that the drone can be safely operated, and that safety risks have been identified and reduced to a tolerable and as low as reasonably practicable level. For commercial operations, an operations manual will need to be submitted (OSC Volume 1). For flights in congested areas, above 400ft, reduced distance operations (whether commercial or not), and operations involving a drone weighing over 20kg, applicants are also required to submit a systems description (OSC Volume 2) and a risk assessment (OSC Volume 3).

The CAA is the independent statutory authority responsible for regulating civil aircraft in the UK, including drones, and is charged with enforcing these rules.

### What are the penalties for non-compliance with the laws and regulations governing drones?

In accordance with article 265 of the ANO 2016 (offences and penalties), the following penalties apply for non-compliance with the following regulations governing drones:

- For non-compliance with ANO provisions specified in Part 1 of Schedule 13 (including, eg, registration requirements under article 94D - not in force until 30 November 2019), a person is liable on summary conviction to a fine not exceeding level 3 on the standard scale (currently £1,000).
- For non-compliance with ANO provisions specified in Part 2 of Schedule 13 (including, eg, requirements for small unmanned aircraft under article 94 and restrictions for surveillance drones under article 95), a person is liable on summary conviction to a fine not exceeding level 4 on the standard scale (currently £2,500). For non-compliance with ANO provisions specified in Part 3 of Schedule 13 (including, eg, endangering the safety of any person or property), a person is punishable on summary conviction to a fine or on conviction to a fine or by imprisonment for a term not exceeding two years, or both.

## Classification

Is there any distinction between public and private drones, as well as between leisure use and commercial use?

In the case of a drone that is available to the public, any flight other than for public transport (which is currently not applicable to drones) will fall within the definition of a commercial operation under article 7 of the ANO. 'Available to the public' means a service that any member of the public can make use of or actively choose to use.

In the case of a drone that is private and not available to the public, any flight performed under a contract between the drone operator and a customer (where the customer has no control over the drone operator) in return for remuneration or other valuable consideration will fall within the definition of a commercial operation under article 7 of the ANO.

Flying operations such as research or development flights conducted 'in house' are not normally considered as commercial operations provided there is no valuable consideration given or promised in respect of the flight.

Where an operation is considered as a leisure use of a drone and the drone is less than 20kg, the drone pilot should follow the reduced provisions set out in question 1. Where an operation is considered a commercial operation, permission from the CAA is required under article 94(5).

Is there a weight-based classification system for drones resulting in the application of different rules?

Yes. Under article 2 of the ANO, a 'small unmanned aircraft' is a drone with a mass of 20kg or less. The mass of the drone is calculated without the drone's fuel but including any articles or equipment installed in or attached to the drone at the commencement of its flight. Drones determined to be small unmanned aircraft are exempted from the majority of the provisions of the ANO (article 23). The reduced provisions are set out at question 1.

For drones with a mass greater than 20kg, the drone must comply with all rules within the ANO as if it is a manned aircraft.

Additionally, for drones weighing less than 250g, drone operators are exempt from a requirement to register as an operator (article 94D) and hold an acknowledgment of competency (article 94F). This is due to come into force from 30 November 2019.

Is there any distinction between completely autonomous drones and remotely piloted drones?

In accordance with the CAA's guidance, there are currently no unmanned aircraft systems (UASs) that meet the definition of completely autonomous (ie, free from external control or influence). There are drone systems that could be classed as highly automated (meaning that the drone system requires human operator inputs but can action those inputs without further human interaction) and highly automated systems (meaning that the drone system can evaluate data, select a course of action and implement the action without the need for human interaction). However, such highly automated systems only control certain defined aspects of the drone's behaviour (eg, engine control systems). A completely autonomous drone will do everything for itself using highly automated systems.

All current drone operational standards have an inherent assumption that a competent human is able to intervene and take control. It is anticipated that, for the foreseeable future, this human intervention facility will still be required by the CAA.

## DESIGN AND MANUFACTURE

### Registration

Do specific rules regulate the design and manufacture of drones in your jurisdiction?

There are currently no rules regulating the design and manufacture of drones in the UK. However, in any application for a non-standard permission or an exemption from the CAA (ie, not including recreational or commercial under 20kg drone operation within the parameters of the reduced provisions of the ANO), the CAA requires details of the designer and manufacturer of the drone in the UAS description component of the Operating Safety Case (OSC Volume 2). Care should be given to include any recognised standards to which the drone has been designed, built and tested (eg, aeronautical standards such as EUROCAE and RTCA, or product standards such as ISO, ASTM, STANAG and BSI).

It should be noted that a package of regulations covering all aspects of drone design and manufacture will be effective from 1 July 2020 (see question 36), with the intention of harmonising drone regulation across Europe.

### Manufacturing authorisation

Must drone manufacturers obtain any licences or other authorisation to carry out their business?  
Are manufacturers subject to any other specific rules?

At present no drone manufacturer licences or authorisations are required in the UK. However, as discussed in other questions, the rules are due to be updated in this regard in July 2020.

### Product liability

Do general product liability rules (or other specific liability rules) apply to the manufacture of drones?

There are currently no specific product liability rules applicable to the manufacture of drones in the UK. However, the Consumer Protection Act 1987 (CPA) (implementing the EU Product Liability Directive (85/374/EEC)), claims in negligence or in breach of contract (express or implied terms) would apply to manufacturers of drones. The EU Product Liability Directive establishes the principle of strict liability in circumstances where a defective product caused damage to a consumer. The CPA may not apply to claims where the damage occurs outside the European Economic Area (EEA), the claimants had no connection with the EEA and the defective product was supplied outside the EEA. The CPA may apply to non-EEA producers in the event that damage is suffered within the EEA by an EEA-domiciled claimant. Importers of products from outside the EEA and, subject to certain conditions, suppliers, may also be liable under the CPA.

Claimants must establish a defect and causation to succeed under the CPA. A product is defective where the safety of the product is not such as persons generally are entitled to expect. There are various defences available, including the state of the art defence (ie, that the state of technical knowledge at the relevant time was such that the person claimed to be liable could not have been expected to discover the defect). In relation to negligence, claimants must establish that the manufacturer of the drone owed a duty of care to the consumer, that the manufacturer breached the duty of care and that the breach caused the damage. In relation to breach of contract, there must be privity of contract between the manufacturer of the drone and the consumer, and the claim will depend upon the terms of the contract (express) but may include additional terms (implied).

## REGISTRATION AND IDENTIFICATION

### Registration

Must drones be registered in a specific national registry? If so, who is entitled to register drones and what requirements and restrictions apply? Is the registry organised as an operator registry or an owner registry?

Drones with a mass under 20kg do not need to be registered, but small unmanned aircraft operators (SUA operators) do. From 30 November 2019, in accordance with article 94D ANO, for drones weighing 250g or more, an SUA operator must not cause or permit the SUA (ie, a drone under 20kg) to be flown unless the CAA has issued the SUA operator with a certificate of registration, and this registration is displayed on all drones that the SUA operator is responsible for. A certificate of registration may relate to a particular description of SUA or to a particular description of flight by SUA. The CAA launched the registration scheme on 1 October 2019 to meet the 30 November 2019 deadline.

It should be noted that the obligation is on the SUA operator, who is the person who has the management of the SUA pursuant to article 94G, not on the remote pilot who is the person who actually operates the flight controls of the small unmanned aircraft (or monitors the flight for automatic flight).

For drones weighing more than 20kg, as part of the OSC for seeking an exemption to operate the drone, specific details of the drone should be submitted to the CAA (including photographs and schematic diagrams).

### Identification

Are drones identified through a marking system similar to that used for manned aircraft?

In relation to drones weighing under 20kg, the 10-digit registration number provided to an SUA operator must be displayed on the drone in the manner that is prescribed (article 94D(2)(b) of the ANO, as amended).

## CERTIFICATION AND LICENSING

### Basic requirements and procedures

What certificates or licences are required to operate drones and what procedures apply?

Currently, there is no formal remote pilot's licence in the UK. It is anticipated that the UK will follow the International Civil Aviation Organization Standards and Recommended Practices currently being developed. The UK operates on a system of permissions and exemptions depending on the type of drone flight.

From 30 November 2019, for drones under 20kg and over 250g, the SUA operator will need to obtain a certificate of registration (see question 9), and the remote pilot will need to have obtained an acknowledgement of competency under article 94F ANO, as amended. To obtain the acknowledgement of competency, the remote pilot will have to pass an online test. The acknowledgement of competency is not a licence, and is the basic competency for drone operation. The acknowledgement of competency lasts three years.

For commercial operations, the drone operator will also need to obtain a permission from the CAA, called a permission for commercial operations (PfCO). As part of the process of obtaining a PfCO, an assessment of the pilot's competency needs to be undertaken by a national qualified entity (NQE) (ie, an organisation approved by the CAA). This assessment will include consideration of adequate theoretical knowledge or general airmanship and the successful completion of a practical flight test. Permissions are valid for 12 months and require the submission of an operations manual (OSC Volume 1).



Where a recreational user intends to operate a drone outside the reduced provisions (see question 1), a permission must also be obtained from the CAA (as for commercial operations). In addition to the evidence of pilot competency, an operations manual will need to be submitted (OSC Volume 1). For flights in congested areas, above 400ft, and reduced distance operations (whether commercial or not), applicants are also required to submit a systems description (OSC Volume 2) and a risk assessment (OSC Volume 3).

For drones weighing over 20kg, evidence of pilot competency needs to be submitted as part of the OSC to obtain an exemption from the CAA. The submissions will include any training or qualifications obtained beyond the basic NQE competency assessment. An operations manual (OSC Volume 1), systems description (OSC Volume 2) and risk assessment (OSC Volume 3) also need to be submitted.

## Taxes and fees

### Are certification and licensing procedures subject to any taxes or fees?

The CAA is proposing an annual registration fee of £16.50 for any SUA operator to obtain their certificate of registration under article 94D ANO. There is no proposed charge for the acknowledgement of competency test under article 94F ANO.

CAA approved NQEs are responsible for setting individual prices for their PfCO drone courses. Once a PfCO drone course is complete or the requirements for obtaining PfCO certification are otherwise met, the cost for applying to the CAA for standard permission to undertake commercial operations is £253, with annual renewals charged at £190.

For non-standard permissions (eg, reduced distance operations, above 400ft operations, congested area operations) requiring the assessment of an entire OSC (OSC Volumes 1-3), the fee is £1,771 (plus charges in excess of seven hours' work at £253 per hour) with an annual renewal charge of £190.

Exemptions for operations on drones weighing more than 20kg have the same initial assessment charge of £1,771 with an annual renewal charge of £506.

## Eligibility

### Who may apply for certifications and licences? Do any restrictions apply?

There are no nationality or financial stability restrictions applicable to drone ownership in the UK. Where an application for permission or exemption requires the submission of a risk assessment as part of the OSC (ie, non-standard permissions), it should be noted that financial risks (including financial stability) do not form part of the risks that should be included, which should be solely limited to aviation safety risks.

## Remote pilot licences

### Must remote pilots obtain any certifications or licences to operate drones? If so, do the relevant procedures differ based on the type of drone or operation?

As set out above, from 30 November 2019 remote pilots must have obtained an acknowledgement of competency before they will be permitted to fly a drone weighing between 250g and 20kg. A person with management of the drone (drone operator) must not allow the drone to be flown unless satisfied that the remote pilot has passed the appropriate competency test. Similarly, a remote pilot must not fly an SUA unless satisfied that the SUA operator has a valid registration and the registration number is displayed on the drone.

Remote pilots of commercial drones or recreational drones intending to fly beyond the reduced provisions of the ANO

must obtain a permission from the CAA, which will include an assessment of the pilot's competency. Likewise, for exemptions in cases of drones weighing over 20kg, the OSC that must be submitted includes evidence of the pilot's competency.

### Foreign operators

Are foreign operators authorised to fly drones in your jurisdiction? If so, what requirements and restrictions apply?

Yes, foreign operators can operate in the UK. Any foreign operator wishing to undertake commercial work will need to obtain a permission from the CAA evidencing the same safety requirements that are required for UK operators. This will include evidence of remote pilot competency (see question 11) and an operations manual detailing how the operations will be conducted.

It should be noted that approvals from foreign governments will not automatically be accepted. A foreign operator must obtain a valid UK permission before undertaking UK-based commercial operations.

### Certificate of airworthiness

Is a certificate of airworthiness required to operate drones? If so, what procedures apply?

There is no requirement for a certificate of airworthiness for recreational drones weighing under 20kg.

In relation to drones for which a permission or exemption is required, the current approach of the CAA is not to mandate a certificate of airworthiness for the operation of drones, but to make use of the OSC framework. However, the OSC requires the provision of information that would be necessary for the initial, continuing and continued airworthiness processes in any event.

## OPERATIONS AND MAINTENANCE

### One drone, one pilot

Does the 'one drone, one pilot' rule apply in your jurisdiction?

With respect to recreational drone operations for drones weighing under 20kg, a drone pilot must maintain direct, unaided visual contact with the drone pursuant to article 94(3) ANO, as amended. Consequently, a drone pilot may only operate one drone absent an exemption from the CAA.

An exemption may be obtained from the CAA with respect to this provision or as part of the exemption for an operation involving drones weighing over 20kg. The OSC submitted as part of the exemption process relates to the unmanned aircraft system, which may include multiple unmanned aircraft within one system. Multiple unmanned aircraft may be operated using swarming technology (where multiple drones are controlled collectively rather than individually). The OSC will need to demonstrate that the operation can be conducted in a safe manner.

### Maintenance

Do specific rules regulate the maintenance of drones?

There are no specific rules relating to maintenance for recreational use of drones weighing under 20kg.

For any operation requiring a permission or an exemption (ie, any operation that is not an under 20kg recreational drone

operation within the parameters of the reduced provisions of the ANO), detail of the process for reporting defects and maintenance is required in the application to the CAA. This may include full details of the maintenance regime of the drone, including timescales, procedures, spare part validation and record-keeping.

### Basic operational rules and restrictions

What rules and restrictions apply to flights performed in 'visual line of sight' (VLOS) and 'beyond visual line of sight' (BVLOS)? Is there a distinction in this regard?

Article 94(3) ANO requires VLOS operations for SUA. This means that the remote pilot must be able to clearly see the drone at all times in order to manoeuvre it to avoid collisions. Corrective spectacles can be used, but the use of any vision enhancing device (eg, binoculars) is prohibited. VLOS operations are normally accepted to be limited to 500m, but this depends on the size of the drone and whether visual contact can be maintained.

BVLOS operations for drones of any size are prohibited absent an exemption from the CAA. BVLOS operations are drone operations that are not conducted in the visual line of sight of the remote pilot (or a competent observer). To undertake BVLOS operations, an operator will need to apply for an exemption from the CAA evidencing in an OSC that the BVLOS operation can be conducted safely. The primary consideration is whether the operation can mitigate the risk of collision (with aircraft, objects and people). With the exception of a segregated airspace, at a technical level this requires a detect and avoid system that is sufficiently advanced to operate at least as well as the ability of a pilot to see and avoid potential collisions.

What rules and restrictions apply to critical and non-critical operations? Is there a distinction in this regard?

The critical and non-critical operations distinction does not exist in the UK, but it is equivalent to the distinctions that the UK exercises with respect to which operations require a permission or exemption from the CAA.

Non-critical operations are equivalent to recreational drones weighing under 20kg being operated within the parameters of the reduced provisions of the ANO, as amended (ie, without the need for any application for permission or exemption). Critical operations are equivalent to all operations that require a permission or exemption.

With respect to nighttime operations, provided direct visual contact can be maintained (in accordance with article 94(3) ANO), there is no prohibition on operating as SUA for recreation purposes at night. For any application for a permission or an exemption for an operation that will involve VLOS night flying, the OSC will need to address operating procedures at night, including aircraft and landing site lighting, hazard identification and weather limitations.

### Transport operations

Is air transport via drone (eg, cargo and mail) regulated in your jurisdiction? If so, what requirements, limitations and restrictions apply?

Mail and cargo delivery is at an early stage of development in the UK and there are a number of technological challenges associated with its implementation. Any such operation would constitute a commercial operation and would invariably need to be operated BVLOS and within congested areas.

An operation involving transport via drone would require an exemption from the CAA. The OSC would need to satisfactorily deal with aviation risks relating to BVLOS, operations in congested areas (including take-off and landing), the effect of differing cargo weights on the flight envelope (including payload maximums), cargo release mechanisms,

and a system coordinating drone traffic if there are multiple cargo drones operating in the same airspace (among other potential safety issues).

**Do any specific provisions governing consumer protection and tracking systems apply with respect to cargo and delivery operations via drone?**

There are no consumer protection and tracking provisions that are relevant to cargo drone operations in the UK. However, as stated, this area is in an early stage of regulatory development in the UK.

### **Insurance requirements**

**What insurance requirements apply to the operation of drones?**

Pursuant to article 2(b) of Regulation (EC) No. 785/2004, there are no requirements for 'model aircraft' with a maximum takeoff mass (MTOM) of less than 20kg. The United Kingdom has defined a 'model aircraft' as an SUA with an MTOM of less than 20kg used for sport or recreational purposes only.

In relation to all other SUA (including commercial operations) and drones with an MTOM of 20kg or more, insurance cover must be sought that meets the requirements of Regulation (EC) No. 785/2004. Regulation (EC) 785/2004 requires drone operators to have insurance cover for each and every flight covering their aviation-specific liability with respect to cargo and third parties (passenger and baggage insurance not being relevant to drone operations).

For drones with an MTOM of less than 500kg, minimum insurance for third-party liability is 750,000 special drawing rights (SDR) (article 7). Minimum insurance in respect of cargo liability is 19 SDR (article 6, as amended by the revised limits in Regulation (EU) No. 285/2010)

### **Safety requirements**

**What safety requirements apply to the operation of drones?**

The entire structure of the CAA permissions and exemptions process is safety driven. Low-risk and low-complexity operations for drones weighing less than 20kg can take place within the limitations of the ANO, as amended. Basic pilot competency is required to be evidenced from 30 November 2019.

For medium-risk or complex operations, operators are required to submit an OSC and obtain permission or exemption from the CAA. The level of detail required in the OSC (ie, whether risk assessments and systems descriptions need to be provided in addition to an operations manual) is based on the risk of the operation. The process requires the operator to have evidenced drone piloting competency and a full appreciation of the risks of the operation (and how those risks are mitigated).

For high-risk or complex operations, full certification is required from the CAA as if the operation was a manned operation. This includes certification of the UAS, the UAS operator and the remote pilots.

## **AIRSPACE**

### **Air traffic control**

**How is air traffic control regulated in your jurisdiction? Which authority provides air traffic control services for drones?**

The CAA is the national airspace regulator in the UK. While airports are responsible for managing terminal airspace (provided by different companies), flights outside terminal airspace are managed by NATS (this encompasses the UK's flight information regions and the Shanwick Oceanic Control Area). For drone flight in controlled airspace, either NATS or the terminal airspace air traffic control (ATC) company would provide AC services for drones.

## Restrictions

Are there any airspace restrictions on the operation of drones?

Article 94A and 94B ANO 2016 as amended provide airspace restrictions for the operation of SUA (with a mass of less than 20kg and not used for commercial operations). The airspace restrictions include flight limited to 400 feet above the surface and a prohibition on flight within the flight restriction zone of a protected aerodrome.

The flight restriction zone comprises three elements:

- the aerodrome traffic zone (a 2 or 2.5 nautical mile radius cylinder (depending on the length of the runway) around the aerodrome, extending 2,000 feet above ground level centred on the mid-point of the longest runway);
- the runway protection zone (a rectangle extending 5km out from the ends of the runways with a width of 1km (1.5km at Heathrow), and extending 2,000 feet above ground level); and
- an additional boundary zone (a 1km boundary of an aerodrome, where this extends beyond the aerodrome traffic zone, extending 2,000 feet above ground level).

Derogations from the above airspace restrictions require permission from the CAA (400ft restriction) or the air traffic control (ATC) (or flight information service) for entry into the flight restriction zone.

For all commercial operations and operations of drones above 20kg, a permission (in the case of commercial operations) or an exemption (in the case of drones above 20kg) will be required from the CAA. The application for permission or exemption will necessitate the submission of an operations manual (and potentially a risk assessment) considering the airspace that the drone is to be operated in.

## Take-off and landing

Must take-off and landing of drones take place in specific areas or facilities?

No. There are no restrictions on take-off or landing for SUA in the ANO, save that small unmanned surveillance aircraft must not be flown within 30 metres of any person during take-off or landing.

For operations requiring a permission or exemption, an OSC must be submitted. The OSC must include details of the main and alternate take-off and landing sites, as well as an explanation of the methods employed by the operator for selecting take-off and landing sites, conducting risk assessments, and ensuring that the take-off and landing sites will be kept clear.

## LIABILITY AND ACCIDENTS

### Cargo liability

Are there any specific rules governing the liability of drones for losses or damage to cargo?

There are no specific rules governing the liability of drones for losses or damage to cargo. However, unmanned aircraft are not excluded from the Montreal Convention 1999 for international cargo carriage or the Montreal Convention as applied by the Carriage by Air Acts (Application of Provisions) Order 2004 for domestic cargo carriage. The Montreal

Convention provides for strict liability of the drone operator, subject to some exceptions covering defects in the product, defective packing, war, or public authority intervention.

Pursuant to article 22 of the Montreal Convention (and as amended by the Carriage by Air (Revision of Limits of Liability under the Montreal Convention) Order 2009), in the absence of a special declaration of interest, liability is limited to 19 SDR per kilogram.

### **Third-party liability**

Are there any specific rules governing the liability of drones for damage to third parties on the surface or in the air?

In relation to the liability of drone operators for damage to third parties on the surface, section 76(2) of the Civil Aviation Act 1982 provides strict liability of the drone owner where material loss or damage (including personal injury) is caused to any person or property on land or water. In circumstances where a drone has been bona fide demised, let or hired out for a period exceeding 14 days, then the person to whom the drone was demised, let or hired will be liable as if they were the owner.

The Civil Aviation Act 1982 does not cover mid-air collisions. Liability for mid-air collisions will be governed by common law principles of negligence.

### **Accident investigations**

How are investigations of air accidents involving drones regulated in your jurisdiction?

Pursuant to article 5(1) of Regulation (EU) No. 996/2010 (and Annex 13 of the Chicago Convention 1944), the obligation to investigate a drone accident arises when an accident or serious incident occurs in the territory of the UK involving a drone weighing more than 150kg. Investigations are performed by the Air Accidents Investigation Branch (AAIB). Since January 2015, the AAIB has extended the remit of its investigation authority to cover all drone accidents and serious incidents regardless of weight. This is pursuant to the AAIB's power to investigate where the chief inspector expects to draw safety lessons and was most recently embodied in section 10 of The Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2018.

In the relevant part with respect to drones, an accident is defined as occurring when either (i) a fatal or serious injury occurs as a result of direct contact with the drone; (ii) the drone sustains damage or structural failure that adversely affects its structural strength, performance or flight characteristics; or (iii) the drone is missing or completely inaccessible, with the event occurring between the time that the drone is ready to move with the purpose of flight until such time as it comes to rest. A serious incident occurs where there is a high probability of an accident and is associated with the operation of the drone.

### **Accident reporting**

Is there a mandatory accident and incident reporting system for drone operators in your jurisdiction?

Pursuant to Regulation (EU) No. 376/2014, an occurrence is defined as any safety-related event that endangers, or if not corrected or addressed, could endanger an aircraft, its occupants or any other person. This includes an accident or serious incident (see question 30).

Pursuant to Regulation (EU) No. 996/2010, any person involved or who has knowledge of an accident or serious

incident involving a drone in UK airspace must report it to the AAIB. Such persons include (but are not limited to) the owner, operator and remote pilot of a drone. All drone accidents and serious incidents are required to be reported to the AAIB, regardless of weight or whether they are being used for commercial operations.

All other occurrences (ie, not accidents or serious incidents) involving drones must be reported under the CAA Occurrence Reporting Scheme pursuant to Regulation (EU) No. 376/2014 and Implementing Regulation 2015/2018. This also applies to UK-registered drones operating outside UK airspace.

### **Safety management and risk assessment**

Are drone operators required to implement safety management systems and risk assessment procedures within their organisation?

For recreational SUA (under 20kg) operators, operating their drone within the reduced provisions of the ANO as amended (see question 1), there is no need for a safety management system or risk assessment procedure.

For all other drone operations (including commercial work, operations outside the reduced provisions of the ANO, and drone operations using drones weighing over 20kg), there is a requirement to detail the safety management system within the operations manual (OSC Volume 1), which is submitted as part of the permission or exemption process. In addition, for flights in congested areas, over 400ft and reduced distance operations (whether commercial or not), and operations using drones weighing over 20kg, a safety risk assessment must also be submitted (OSC Volume 3).

## **ANCILLARY CONSIDERATIONS**

### **Import and export control**

Do specific import and export control rules apply to drones in your jurisdiction?

The UK Strategic Export Control Lists set out a consolidated list of strategic military and dual-use items that require export authorisation. Unmanned aerial vehicles and components feature on the list, including unmanned vehicles specially designed or modified for military use, or capable of a range exceeding 300km.

Trading in controlled goods requires a licence. Trading without a valid licence can result in financial penalties or imprisonment.

### **Data privacy and IP protection**

How are personal data privacy and IP protection regulated in your country with specific reference to drone operations?

No specific data privacy and IP protection rules apply in relation to drone operations in the ANO. However, if a drone operator or remote pilot is using a drone to record people with a film or still camera loaded onto the drone, they will also have to comply with the UK's Data Protection Act 2018 and privacy laws contained in the Human Rights Act 1998.

## **UPDATE AND TRENDS**

### **Sector trends and regulatory developments**

Which industry sectors have seen the most development in the use of drones in your jurisdiction and which sectors are expected to see further development in future? Have there been any notable recent regulatory developments relating to drones?

**35 Which industry sectors have seen the most development in the use of drones in your jurisdiction and which sectors are expected to see further development in future? Have there been any notable recent regulatory developments relating to drones?**

Drone use in the UK is considered in the UK government's Civilian Drones Briefing Paper dated 11 February 2019. The Paper found that drones operating in aerial photography, border control, precision agriculture and public safety are in the latest stage of development.

Further development is anticipated across a wide range of sectors. A PwC study in May 2018 predicts that by 2030 there could be 76,000 drones operating in the UK skies leading to a £42 billion uplift in GDP. Industries where the GDP uplift will focus include the public sector (£11.4 billion, including defence, health and education), construction and manufacturing (£8.6 billion) and wholesale, retail trade and food services (£7.7 billion). Other areas likely to see a considerable uptake in drone technology (particularly once BVLOS technology and regulation is fully developed) include oil and gas operations, utilities and logistics.

On 11 June 2019, the Commission Delegated Regulation (EU) 2019/945 (the Delegated Regulation) and the Commission Implementing Regulation (EU) 2019/947 (the Implementing Regulation) were published in the Official Journal. The Regulations establish an operation-centric, proportionate, risk and performance-based regulatory framework for the operation of drones.

Three categories of drone operation have been established under the Implementing Regulation (open, specific and certified). Open category operations involve low (or no) risk to third parties and are capable of taking place without any further authorisation requirements. Certified operations are operations that are equivalent in risk to manned aviation and should be subject to the same regulatory regime. Specific operations are those that are neither open nor certified and involve a greater risk than open category operations. Such operations require operational authorisation similar to the current permissions and exemptions process. The Regulations are wholesale EU Regulations covering all aspects of drone operation and manufacture (ie, not just aviation safety).

It is uncertain what the impact of Brexit will be on the above, but it is understood that the CAA is working towards implementation of these Regulations as if the UK were to remain a member state.

In addition, the UK government has indicated plans to increase police powers in relation to drone misuse where there is reasonable suspicion that a drone has been used in the commission of an offence, and provide police with powers to issue fixed penalty notices for minor drone-related offences.

**LAW STATED DATE**

**Correct on**

Give the date on which the information above is accurate.