Regulating drones in the EU: State of play

Unmanned aerial vehicles – drones – are a rapidly evolving high potential sector. They require an adequate legislative framework to ensure that the services they can provide thrive in the EU internal market while meeting security and safety standards. The European Commission’s ‘drone strategy 2.0’ is a key milestone along this road.

Background

All aircraft designed to fly without a human pilot on board are considered drones. Unmanned aircraft systems (UAS) include the unmanned aerial vehicle (UAV), its system and all equipment used to control or operate it. A subcategory of these are remotely piloted aircraft systems (RPAS). The U-Space airspace is a geographical zone designated by Member States in which UAS operations may only take place with the support of U-space services (digital services and automation of functions designed to support safe, secure and efficient access). Drones can vary in size, from (insect-sized) nano-drones for military detection to driverless aircraft transporting passengers (in development). They can be powered by batteries, combustible fuels, hydrogen fuel cell or solar cells.

While drone technology was first used for military purposes, civil use started in the 1980s. Drones can be used for recreation (toy and racing drones), professional uses (air photography and filming, supervision and monitoring, territorial mapping), business (delivery of parcels or food, postal activities, advertising), transport of people (drone helicopters and airline services), or government purposes (defence, civil protection, disaster management). Drones have potential environmental benefits, as they could offer a greener way to move persons and goods, and help to reduce greenhouse gas emissions. They also have economic advantages: they are a time-efficient delivery form, they can optimise irrigation and fertilisation processes in agriculture, and they have the potential to create new jobs. The sector is evolving rapidly: AI, advanced sensors and improvements in power sources are opening new prospects. The first trials in passenger transport in Europe are expected to take place within the next few years.

EU regulation of drones

As the number and availability of drones rises, there is a clear need for appropriate and common safety standards, as well as legal and ethical rules. In addition, the current lack of mutual recognition of national authorisations creates segregated airspace and does not allow for EU-wide activities, either to produce or to operate RPAS. Unlike in other sectors, there are no complete regulatory frameworks at national level, so it would still be possible for the EU to put in place a common regulatory structure to which the major players at EU and national levels could contribute and which could then be enforced at national level.

The European Commission has been working on a comprehensive EU policy in the field of drones for a decade already. In 2014, the Commission adopted a communication on a new era for civil aviation. It reiterated the need to develop a common regulatory framework to reflect the variety of aircraft and operations. It suggested that the European Aviation Safety Agency (EASA) was best placed to develop common standards, in a consultation process involving other players, including the national civil aviation authorities, the European Organisation for Civil Aviation Equipment (EUROCAE), Eurocontrol, the Joint Authorities for Rulemaking on Unmanned Systems (JARUS), the SESAR Joint Undertaking (SJU), the European Defence Agency (EDA), and the RPAS manufacturing industry and operators.

In 2015, the Commission adopted an aviation strategy for Europe, proposing a basic legal framework within which the European aviation industry could develop and remain competitive on the global market. This framework was to include new emerging technologies, such as drones. The Commission tasked EASA with preparing more detailed rules on drone operations, developing industry standards, and collecting, analysing and publishing safety information concerning drone operations. The EU institutions were
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meanwhile to upgrade the legal framework for drone operations in EU skies; responsibility for practical implementation would lie at national level. The actions announced in the 2015 aviation strategy are now largely complete.

Following an informal agreement between the Council, the European Commission and the European Parliament in 2017, a new regulation referred to as the ‘Basic Regulation’, or the ‘EASA Regulation’ since it is based on an EASA opinion, was adopted in 2018. It extends the scope of the European aviation safety rules to all unmanned aircraft systems, regardless of weight. It sets out operational requirements and procedures for drone operations, including aspects of safety, privacy, data protection, liability, insurance, security and environmental protection.

In 2019, the Commission adopted two regulations on drone operations. Implementing Regulation (EU) 2019/947 on the rules and procedures for the operation of unmanned aircraft classifies drones in three categories: open, specific and certified. The open category includes drones up to 25 kg to be used mostly for leisure purposes, not needing prior authorisation. The specific and certified categories concern mostly the professional use of drones, requiring due authorisation from the competent authorities. The regulation also covers conditions for maximum flight distance from the surface, and training and competency requirements for remote pilots. Delegated Regulation (EU) 2019/945 on operators of unmanned aircraft systems includes the technical requirements for drones to be operated in the open category. According to EASA, these regulations, applicable since 31 December 2020, make Europe the first region in the world to have a comprehensive set of rules ensuring safe, secure and sustainable operations of drones.

To ensure the safety of drone operations in airspace and their integration with manned aviation, in 2021 the Commission adopted a package of implementing regulations on U-space. Implementing Regulation (EU) 2021/664 on a regulatory framework for U-space, which lays down the technical and operational requirements for the U-space system. Implementing Regulation (EU) 2021/665 sets out common requirements for air traffic management and air navigation service providers to establish specific coordination procedures and communication facilities between air traffic service (ATS) units, U-space service providers and UAS operators. Implementing Regulation (EU) 2021/666 establishes common rules for making the presence of manned aircraft operating in U-space airspace electronically visible. These provisions have been applicable since 26 January 2023.

Drone strategy 2.0

The European Commission’s sustainability and mobility strategy, published in December 2020 as part of the European Green Deal, sets out measures to be taken by the transport sector to meet the EU’s ambitions of climate neutrality by 2050 and a 55 % reduction of greenhouse gases by 2030. Under its flagship 7, the sustainability and mobility strategy identified the need for a new drone strategy, to maximise drones’ potential contribution to the single market. Flagship 7 also stated that the EU would pave the way for the development of these new technologies and services, and all necessary accompanying legislation.

Published on 29 November 2022, the objective of the Commission’s drone strategy 2.0 is to ensure that drones are widely used and regulated by 2030. The strategy focuses on the development of the drone ecosystem and on two main objectives: building the EU drone service market and strengthening the Union’s civil, security and defence industry capabilities and synergies. It highlights 19 flagship actions to be implemented by the Commission; these actions are grouped into nine chapters: 1) airspace capabilities; 2) aerial operations; 3) innovative air mobility; 4) sustainability and social acceptance; 5) the human dimension, including skills and training; 6) funding and financing; 7) technology building blocks and enablers, including research and innovation; 8) common standards; and 9) counter-drone capabilities and system resilience.

While drone strategy 2.0 is an important step towards unified regulation of drones in the EU, some challenges remain, including ethical issues. The questions of illegal drones and data protection breaches also need to be addressed. A further challenge is the enforcement of these rules, which is currently the responsibility of authorities at the regional and local levels.

This 'at a glance' note has been drafted at the request of a member of the European Committee of the Regions, in the framework of the Cooperation Agreement between the Parliament and the Committee.