Factsheet

UK Civil Aviation Authority

Unlocking the true potential for drones – **Beyond Visual Line of Sight operations**

Some of the most obvious and beneficial use of drones require them to be flown beyond the visual line of sight of the person flying them. Examples could include inspecting overhead power lines or delivering medical supplies.

Technically many drones, even those used by enthusiasts, are capable of flying many miles away from their operator. But for their true potential to be unlocked, and Beyond Visual Line of Sight (BVLOS) flying to become an everyday occurrence, what nations and companies around the world need to solve is how these drones can be safely integrated with everything else flying in our skies.

The BVLOS flying challenge

Drones have been flying BVLOS in the UK for several years. But these flights are primarily trials to gain data and prove it can be done safely. Some though have flown hundreds of flights, including medical delivery trials that were particularly useful during COVID-19. Several companies have also set out their plans for more wider use of drone deliveries.

Before we see everyday drone BVLOS flights there's still more work to be done, both from the technical side of the drones and their systems, and from a safety side, particularly the integration with other things flying in the same places.

Most drones fly at heights and in airspace used by a multitude of other flyers – including light aircraft, balloons, helicopters, and the military. Away from airfields a lot of these aircraft are flying without direct guidance from air traffic control. In many cases they are avoiding each other by the pilots looking out of the cockpit and seeing other aircraft. Some light aircraft don't have radios or electrical systems. Plus, the UK is a small country with a lot of flying taking place, so all these aircraft are already fitting into a small space, making it harder to segregate off areas just for drone use.

That's why most drones must be flown within the visual sight of the person flying them – so they too can see any other aircraft in the area and avoid each other.

While there are other issues to be resolved around widespread drone BVLOS flights (noise, safe landing sites, social acceptance etc) how they fit in with other things flying is the key safety issue.

How everyday BVLOS flying will happen

We are supporting the safe development and integration of routine BVLOS drone operations in the UK. A key part of this work involves continued trials, advancing drone technology, and upgrading detection and alert systems in other aircraft to ensure mutual awareness and safety.

As part of this, we are working on policies that define how different types of drones can operate safely within various classes of airspace. Our roadmap outlines how everyday BVLOS flying could be achieved, and we continue to collaborate with industry partners to test and refine this approach.

Some types of BVLOS operations are already easier to implement—for instance, low-level flights for infrastructure inspections, such as railway lines, where the risk to other airspace users is minimal. These kinds of use cases are becoming increasingly viable as operator training frameworks mature and approval processes for specific drones are established.

We remain committed to enabling safe and scalable BVLOS operations across a range of sectors. This work also forms the foundation for the future of innovative aviation, including autonomous air taxis and remotely piloted cargo aircraft.