Factsheet

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've developed a roadmap of how everyday BVLOS flying could happen. More trials will be key, as will advancing the technology in drones and improving the equipment in other aircraft to be able to electronically detect drones and alert pilots to them. Coupled with this will be the development of policy around the types of drones that can be accommodated in different types of airspace. We published our view on how this could be achieved in April 2023 and this is currently being trialled by operators.

Some types of BVLOS drone flying are easier to put in place. For example, using drones at a very low level to inspect a railway line will have much less impact on other aircraft. We could see these flights roll out in 2024 once extra training for drone pilots and a system for approving the drone itself is in place.

We are continuing our work to advance and safely introduce more widespread BVLOS flying and assisting the industry with its developments that will also enable this next stage in drone flying. Plus, all the development eventually leads to the roll out of other areas of innovative aviation including autonomous air taxis and remotely piloted cargo aircraft.