

It's a new whirl as sky fills with private drones

James Gillespie

THE surveillance drones that have revolutionised warfare are to become a common feature of civilian life in roles as diverse as crop spraying, tracking fugitives and monitoring crowds.

Europe's governing body on unmanned aircraft meets this week in Brussels to agree rules that will allow unmanned aerial vehicles (UAVs) to operate safely in civilian airspace. The Federal Aviation Administration in America is also planning to unveil regulations this year to allow private flying of UAVs.

The prospect of drones being used for monitoring protests or tracking individuals will raise concerns about privacy. Google provoked outrage when it filmed every street in Britain for its Street View service.

Although some drones are already allowed in Britain, the new regulations governing European airspace could come into effect as early as next year and would greatly relax the limits placed on flights by the Civil Aviation Authority (CAA).

Peter van Blyenburgh of Unmanned Vehicle Systems International, a trade association based in Holland, told *New Scientist* magazine that he expected hundreds of people to apply to use drones when the new regulations came in.

According to Chris Cole, of Drone Wars UK, which monitors the use of drones around the world, 50-60 firms and public bodies have permission from the CAA to fly aircraft weighing less than 44lb in Britain, but they must remain below 400ft and within 1,500ft of the operator. It is believed the police are consid-

ering using drones for security at the Olympics.

"We know the CAA is concerned about the safety aspect, which is very important, but from the civil liberties point of view we have no idea what those people who have permission to use drones are actually doing. Nobody is monitoring them," Cole said.

The police have also indicated they would like to use drones to monitor motorists, protesters and fly-tippers.

A spokeswoman for Privacy International said: "We could very quickly find ourselves under all-pervasive and inextinguishable video surveillance."

In America, the Customs and Border Patrol uses a Predator drone to hunt illegal immigrants and drug runners.

In parts of the world where the skies are less congested, civilian drones are already in use for a wide variety of tasks. In Brazil, small helicopter UAVs survey soya bean and sugar cane fields, and in Japan drones help to spray crops.

In disasters, drones can be

employed in areas too dangerous for rescue teams. Japanese safety crews used them at the Fukushima power plant when three of its six nuclear reactors melted down after last year's earthquake and tsunami.

Scientists have also been quick to recognise their potential. An Australian team monitoring moss beds in Antarctica, which may reflect climate change, has been using two unmanned helicopters on the icecap. One is steered remotely, the other can be programmed via sat nav.

In the Pacific, a fixed-wing drone is being used to take aerial photographs of Easter Island. It can take pictures down to 2in of ground, while satellite images on Google Earth can reach to just 10ft.

Apart from the civil liberties concerns, there is another problem: "They crash all the time," said Cole. "That's a real concern. They don't have airworthiness certificates because they don't carry people."

Mike Lissone of Eurocontrol, the European air traffic control organisation, said: "The key here is safety. Unmanned aircraft, regardless of their size, can only fly in civil airspace if they are as safe, or safer, than piloted aircraft are now."

The EU may demand drones over a certain size are equipped with collision avoidance technology but those who fear the infringement of privacy should take note — military technology is already moving towards tiny "nano UAVs" including one model disguised as a hummingbird.

Additional reporting:

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