WHAT'S IN A NAME?

UNMANNED AERIAL VEHICLES ARE RARELY AS UNMANNED AS THEIR TITLE WOULD SUGGEST

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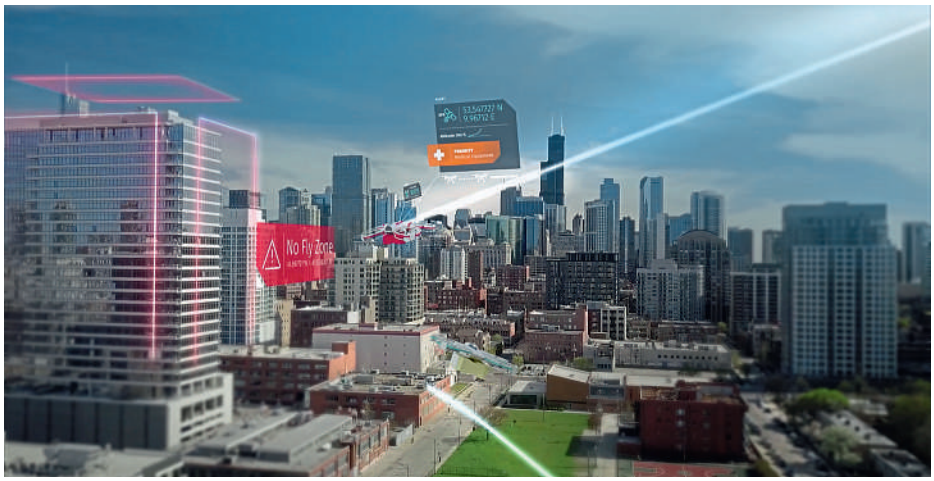

As anyone who's ever used one knows, the average UAV or drone is actually quite a small thing – certainly too small to fit a pilot on board. Hence the name Unmanned Aerial Vehicle. But equally, as anyone who's ever used one knows, that doesn't mean they don't have a pilot at all. 'Unmanned' or not, someone has to be in charge of the average UAV or else it'll crash into something, potentially causing damage, harming someone or simply rendering it inoperable.

Not all the time, of course. Autonomous UAVs are emerging whereby you can plug in a flight path into control software and the UAV will do the rest. But once it leaves the line of sight, every UAV operator is acutely aware that something could cause it problems. The longer the flight, the greater the chance of a crash.

The reasons for this can be manifold, but often it's because something's there that wasn't on the map when planning the flightpath. Maybe the map is out of date and something new has been added; maybe it's something too small to warrant inclusion on the map. Maybe it's because the map only covers two dimensions and that object that seemed quite small on the map is actually very tall in real-life. Or maybe the map's fine – it's just that something has decided to fly into the area just as you want to use it, perhaps even someone else's UAV.

But organisations are working on ways round this problem. On page 34, Unifly's Marc Kegelaers and HERE's Leon van de Pas explain how their companies are working together to create maps of the skies for UAVs. As they point out, things have improved in recent years, and there are rich information sources available for surveyors who need to plot flightplans for their UAVs. However, there is still a long way to go.

The two companies are working to apply some of the same techniques used by the car industry to mapping the sky. UAVs contain sophisticated sensors that can be used to determine if the landscape has changed, just as a car can upload changes it notices to the road since its SatNav was last updated, such as roadworks and lane closures. Similarly, if there are adverse weather conditions or UAVs around, that information can be uploaded to guide other UAVs.

This approach meshes with the European U-space initiative, which aims to make denser traffic from automated UAV operations possible. If all goes to plan, Europe will have a fully automated, connected digital infrastructure by 2025. Will the rest of the world follow suit?

We hope you enjoy the issue.

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