Bird & Bird

Unmanned Aerial Systems: The Future is now
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In the aviation industry unmanned systems is the greatest evolution since the creation of the jet engine. The principle investment and area to exploit for the industry is the unmanned aerial system. It's really about the sensors and systems you put on the platform in order to perform a mission. So it's either UAS or UAV, but particularly the other concept is remotely piloted air system, because there is a distinction between a fully autonomous vehicle which you could, for example, set in its mission, it would go away, fly the mission and come back, and an unmanned aircraft that is piloted from the ground.

There are a number of applications operating at the moment which are, if you like, much smaller in scale than typical manned aircraft, so they'll stay relatively low above the ground and there'll be somebody on the ground who's in visual contact, and those sort of applications are recognised and are being allowed in a number of countries at the moment. The Holy Grail for the industry is to achieve what's called full integration in to all classes of air-space, and that means beyond the line of sight of the operator and mixing it with other aircraft.

Which is why it's an interesting area for lawyers now because there is this regulatory gap in terms of the law catching up with the technology.

Manned aircraft have to go through a process to satisfy the regulators and, therefore, the public that they're safe to fly, you'd be happy for your family and children to go on board the aircraft. At the moment those regulatory standards don't exist for unmanned systems.

For manned aviation you depend on the product integrity, the aircraft integrity with defined processes for defining airworthiness. At the moment with remotely piloted systems you've got lots of people manufacturing vehicles who don't come from that sort of background. Those specifications don't exist because at the moment the difference in technology is quite significant.

What the industry does have to think about a little bit more smartly is what happens among the various players in the industry, because the relationships between manufacturers, operators, clients, pilots is just a little bit different from the way it works in the traditional manned aviation context. But that is something for the industry to sort out, not to have regulation imposed on it by the legislature or by Europe.

So a particular problem for some industry players is they've developed an airplane for use which may actually operate fully safely, but they haven't designed it for civil certification, so you can't then bring the aircraft back to Europe and use it to perform civil reconnaissance tasks and so that, again, it's one of the barriers in the industry at the moment which makes it interesting for lawyers.

At the moment you've got a very divergent regulatory structure. There are national bodies, there are European bodies, there's the International Civil Aviation Organisation. You've got different schemes

applying in different countries.

And what you're seeing in the US and all round Europe at the moment is laws and regulations prohibiting unmanned operation, whereas the UK CAA sees this as something that the UK should be leading in, and they are actively encouraging people to test the boundaries of what can be done.

I think there's a degree of public fear that an unmanned air system could actually come in to your garden. There's also a degree of public fear about cluttered skies, and add to that a general mistrust of government collecting, you know, finding better ways to collect data, a mistrust of private organisations being allowed to collect data which could then be abused.

Overall, it has to be said that particularly in the UK, actually, the aviation law is probably pretty good and it's advancing as fast as it could. It's interesting to us, because it's an area of law which is not fit for purpose for the current technology.

The next five years is going to see an enormous amount of regulatory activity at a lot of levels. The development of the regulations that are needed to allow full exploitation of the lighter and simpler systems. We need more development of operational standards and procedures, we need to develop Detect and Avoid technology so that, in particular, outside controlled air-space there's a substitute for the existing mechanism that's based on the pilot in the cockpit looking out of the window and seeing what's coming. And so you need to have a means of separating any unmanned vehicle from any other aerial vehicle, manned or unmanned.

I think that a far greater range of aerial survey will be done by unmanned systems, and I think the public would grow to accept unmanned systems as actually being safer than a manned aircraft in a lot of ways, and actually performing a genuinely beneficial social task.

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