

# ANALYSIS: REGULATORS STEPPING UP IN UAV AIRSPACE INTEGRATION

News / Airlines



**When it comes to unmanned air vehicle airspace integration, a blame game is typically played out between industry, users and regulators on why these operations still come second to manned aviation.**

**While users are largely at the mercy of all other parties, regulators claim the technology is not safe enough to fully open up the airspace, and industry is refraining from investing significant sums of money in a technology that it considers largely unusable under current rulings.**

**However, this dynamic is shifting slightly in Europe. Regulators at the European and national level are starting to realise that boundaries may have to be pushed to break the vicious cycle, and take integration to the next level.**

Speaking at the AUVSI Europe conference in Brussels on 22 March, Trevor Woods, certification director for the European Aviation Safety Agency, said that it is working “very hard” to ensure a timely adoption of new rules that were proposed 12 months ago.

Woods believes that more needs to be done by the regulator to ensure that the proposed risk-based rules for UAV use – which look more at operational aspects rather than factors like weight – are effective and implemented.

“What industry needs is some certainty if they are going to invest in technology and standards; they need some framework that gives them some certainty on what they are doing, which is why we are working on the basic regulation and the implemented rules,” he says. “The time pressure is on us to give visibility on these rules and what industry can do through these rules.”

He says that the basic regulation – which is splitting UAV use into open, specific and certified categories based on the risks posed – is being reviewed at the moment ahead of its final implementation, and that EASA “will have to work very hard” on these areas.

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Woods says that developments on the open and specific categories need to be in place in 2016, claiming: “We need a product this year for certain: we need clarity for certain.”

Under its current EU presidency, the Netherlands has declared to prioritise UAVs as a key area that it is looking to develop, and vows to push through implementation of the proposed EASA basic regulation on UAV use.

Ron Van de Leijgraaf, senior policy advisor for the ministry of infrastructure and the environment for the Netherlands, told the conference that it is looking to get the long-term roadmap past the current regulation proposal, which will cover full UAV integration. An initial meeting on the roadmap planning took place in March, and two more are planned; one each in April and May. The initial response to this has been “quite positive”, van de Leijgraaf says.

He acknowledges that the entire basic regulation will not be enforced under the current six-month presidency, “so we want a partial agreement with the member states to at least get this moving”. The next three respective presidencies of Slovakia, Malta and the UK need to get on board with the issue to continue the work the Netherlands has started, he adds, and meetings are planned before hand-over to stress the importance of this role.

“I haven’t seen any real problems from the member states,” he says, but adds: “if necessary, I think other member states will get involved to push it through.”

While it has not yet been clarified, van de Leijgraaf was pressed to say whether he thinks full integration of the basic regulation will happen in the 2018/2019 timeframe.

“It’s a very aggressive agenda, but we need to move forward because industry isn’t waiting,” he notes.

Under the proposed regulations, the sub-150kg (330lb) weight category that national aviation authorities are currently responsible for will be removed, and EASA will provide the rulings on all weight categories that will then be enforced by individual nations.

Van de Leijgraaf claims that weight should not be the only factor that is considered when measuring the potential safety threat of a UAV, and says the EU wants to explore other factors, such as kinetic energy. The EU’s CE markings also need to be explored, so that UAVs can carry them to show the safety and guarantee of the system.

“There will definitely be new product rules for drone development, different to aviation products,” he adds.

The Netherlands is looking to report with its results on UAV integration to the EU’s transport council in June, just before its presidency finishes at the end of that month.

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The UK has for some time been pushing ahead with UAV regulation, which it considers to be too sluggish at the European and international levels.

Paul Cremin, head of UK aviation operational safety and emerging technologies at the Department for Transport (DfT), says the UK wants to allow for beyond-line-of-sight UAV operations at all altitudes by 2020, which is a feat that will take a real push in regulatory change over the coming years.

“The UK has made it clear we want to achieve beyond-line-of-sight operations at all altitudes by 2020... but regulations can’t just happen on paper,” he says.

Cremin adds that there is a need to make sure the regulations work at European and ICAO levels

as well, “so that what comes out is robust”.

“Industry – please don’t wait for the regulators to sort this out for you,” he urges, suggesting that the regulators may not always be ahead in this issue, and that technology could help shape how they are used.

The DfT has been carrying out a public dialogue since December 2015, which is one way in which the government is trying to accelerate acceptance and integration of UAV operations, and determine the challenges the government has with their perception.

Cremin cites the dialogue as important because unmanned systems are not only operated by aviation experts, but the general public, “yet we’re still trying to enforce aviation regulations on them”.

A full report on the dialogue will be issued in April, followed by a public consultation in June, which will eventually inform a UK government strategy on permitting operations later this decade.

The UK is carrying out a number of pathfinder projects that it hopes will lead towards this UAV integration ideal, including the exploration of UAV parcel delivery.

It hopes that the 20-plus UAVs that the Royal Air Force will acquire under its Protector programme will be able to fly in national airspace; something which the 10 General Atomics Aeronautical Systems MQ-9 Reapers that it currently operates cannot do.

It is expected that the RAF will acquire a certifiable variant of the Reaper that is currently in development, but in order for this to be able to fly in national airspace by the 2020 timeframe, changes to regulation need to be made now.

It is also understood that the UK wants to fly another of its military UAVs, the BAE Systems-led Taranis unmanned combat air vehicle demonstrator, in UK airspace. Testing has previously been carried out at the Woomera test range in Australia, but if the airspace opens up as planned, testing could transition to the UK.

Flight testing of the British Army’s Thales/Elbit Systems Watchkeeper UAV has taken place in the UK, both at Boscombe Down in Wiltshire and Parc Aberporth in Wales. However, this is carried out in designated airspace, and the plan is to expand this to be able to integrate unmanned operations into air traffic management systems to allow for flights alongside manned aircraft.

The regulators and government representatives are still primarily concerned with safety, but the presence of what was once a distant technology is now very much a reality, and much business depends on its integration.

“As regulators we can do this very well, [apply] so much regulation and enforcement, that it will be very safe, but that is not in our interests and not what we want to achieve,” Woods says, claiming that a balance is needed between what industry wants and what the safety bodies need to enforce.

“The pressures are usually on safety, but now we have technology driving the time pressures and the need to enable the market to develop and operate these technologies.”

He adds that hindering developing and blocking UAV use is “quite easy”, but “it is not so easy to put in a regulatory structure to enable safe operations, and enable new types of operations”.

**SOURCE: FLIGHTGLOBAL**

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