

The Goldilocks' Paradox

The impact of standards and regulations on drones in construction

Tony Shooter 20/12/2018

There certainly seems to be a lot of excitement around the Price Cooper Waterhouse (PCW) "Impact assessment of drones on the UK economy by 2030". The figures for Construction are mixed in with Manufacturing, but even a small proportion of the GDP uplift of £8.6bn [1] would be a welcome boost to the construction sector. Cost savings and productivity are the driving forces behind these figures, yet it also states that regulations must "evolve" to liberate the technology whilst *maintaining safety and security* of the UK's airspace.

The chaos seen unfolding at Gatwick airport this morning and which, at the time of writing, is still ongoing, stands testament to the very real problems to safety and security that drones can represent.

The need for regulation is clear, but it does lead to an apparent-self-contradictory conclusion. A paradox! [2] Drones can offer productivity and cost savings. But regulation to ensure safety and security by their very nature inhibit innovation and add cost. To break the paradox – or at least to lessen its effects - a "Goldilocks" approach is required. Regulation must be not too hard and not too soft, but just right.

Today's regulations are underpinned by the Air Navigation Order (ANO) 2016 [3] – amendment (ANO) May 2018 [4]. The Civil Aviation Authority (CAA) manages and provides guidance to commercial operators⁵. The ANO 2016 contains default restrictions. Exemptions are possible through the CAA by producing a safety operational case [6].

At first glance the default restrictions seem relatively straightforward. However, when these are transposed into real-life construction scenarios some interpretation needs to be undertaken. This can be complex, even for legal specialists, as there is little or no supporting case law due to the technology being relatively new. It can be a time consuming and daunting experience with potentially serious consequences if you get it wrong.

Add in other bodies such as the Health and Safety Executive, the Air Accident and Investigation Branch, the local authority and the police and you could be forgiven for feeling overwhelmed. And that is even before looking into Drone Insurance and ensuring you are GDPR compliant.

At the present time in-house construction Drone Teams are relatively small even in the largest Tier One organizations. Many construction entities choose to subcontract to one of the 4920 (CAP1361) sub 20Kg commercial drone operators in the United Kingdom [7].

The vast majority of these drone operators are small to medium sized enterprises that are ideal for an industry in its early adoption stage. It is their ability to be dynamic, nimble, cost effective and innovative in an ever-changing landscape of challenges and opportunities (something that larger corporations often struggle with) that is their main strength.

The challenge here is that most of these small operations (either in-house or subcontractors) do not have the resources in time and/or the monetary capacity to tackle heavy complex obscure regulations and standards with multiple enforcement agencies.

It could be argued that this is the primary reason that despite all the great things that drones are capable of they still remain a niche tool in a sector that is desperate for the productivity and cost savings that the technology can offer.

And there are more regulations and standards on the way. The Drone Bill is due its second reading in the House of Commons on Friday 15th February [8]. By all accounts the proposals focus on drone enforcement and to mandate and regulate Flight Information and Notification (FINS) for all drones over 5kg [9].

Coupled with this development - currently in its public consultation stage - is the International Standards Organization (ISO) world - wide drone standards [10]. This four part series covers areas such as classification, design, manufacture operations, maintenance and safety management of operations.

Its adoption in 2019 is not mandatory on users, but it is important to note that regulatory authorities do pay close attention to the ISO and British Standards Institute (BSI) when formulating legislation and regulations.

If we are to realize PCW's financial forecasts for drones in the construction sector then we need regulations and standards that are "just right". As too much or too little will impact adversely on this fledging technology in construction.

Please share your experiences and thoughts in regards to existing and potential regulation and standards with us at www.comit.org.uk/drone-news . And Together we can COMIT2Drones.

The COMIT drone community www.comit.org.uk/drones is tailored to meet the needs of its members and continually addresses the challenges and opportunities of operating drones in the construction environment with drone technology.

References

1. <https://www.pwc.co.uk/intelligent-digital/drones/Drones-impact-on-the-UK-economy-FINAL.pdf>
2. <https://en.wikipedia.org/wiki/Paradox>
3. http://www.legislation.gov.uk/uksi/2016/765/pdfs/uksi_20160765_en.pdf
4. http://www.legislation.gov.uk/uksi/2018/1160/pdfs/uksi_20181160_en.pdf
5. <https://www.caa.co.uk/Commercial-industry/Aircraft/Unmanned-aircraft/Small-drones/Regulations-relating-to-the-commercial-use-of-small-drones/>
6. <https://media.nesta.org.uk/documents/Flying-High-full-report-and-appendices.pdf>
7. <https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=7078>
8. <https://services.parliament.uk/bills/2017-19/droneregulation/documents.html>
9. <https://www.gov.uk/government/consultations/drone-legislation-use-restrictions-and-enforcement>
10. <https://www.iso.org/committee/5336224.html>