

**Drone Industry Action Group**  
**Notes of the 5<sup>th</sup> meeting, 24 July 2017, BEIS Conference Centre**

**Attendees:**

Iain Gray, Cranfield University (Chair)  
Neil Kidd, Altitude Angel  
Stuart McGlynn, Cyberhawk  
Joel Grundy, Thales  
Chris Blackford, Sky Futures,  
Paul Rigby, ConsortiQ  
Simon Ritterband, Moonrock Insurance  
Tris Dyson, NESTA

Wendy Welsh, Network Rail  
John Morlidge, InnovateUK  
Nikos Pronios, Innovate UK  
Phil Williams, KTN  
  
Officials from DfT, BEIS and CAA

**Apologies:**

Sue Wolfe, ARPAS-UK  
Phil Binks, NATS  
Gary Clayton, UAVS  
Jeegar Kakkad, ADS

Malcolm Connelly, CyberHawk  
Richard Parker, Altitude Angel  
Owen McAree, Sheffield University

**1. Minutes of 27 April Meeting**

The minutes were accepted as a true record.

**2. Update on the Flying High Programme.** Tris Dyson reminded the Group that the start point for this programme is the hypothesis that the urban drone opportunity is huge and that cities need to prepare for this. NESTA have spoken to a number of cities around the world and found none that had fully explored the implications of drones, hence they are working with 15-20 UK cities to explore how to incorporate drone use in their plans. NESTA hope to move from an essentially public consultation exercise to a more practical phase and have been in discussion with Innovate UK around this. NESTA are seeking to engage more widely and in this regard the need to establish links with UTM activities were highlighted. DfT reported they are meeting with NESTA around this in August.

**3. Update on the Pathfinder Programme.** Daniel Jones gave a verbal update and said that whilst the aim is to support regulatory development the focus on the path to BVLOS has been useful in setting goals etc. The programme had an ambition to share leanings across the community and is planning community days (starting in September) where the projects, CAA, Innovate UK and others come together to present their work to identify and discuss common issues. The IAG welcomed this and commented that it could be beneficial to (selectively) widen the audience, for example through including relevant Innovate UK projects. Wendy Welsh commented that from the outside pathfinder seems to have “faded into the background”. **Action:** DfT to contact Innovate UK to explore options for ‘drone innovation community days’.

**4. The Standards Group.**

Wendy Welsh summarised the activity of this group:

- The sub group felt that a practical next step would be the drafting of a common set of minimum competencies and requirements, as currently taught and assessed by CAA-approved NQEs. These are as specified by CAA so there is a strong starting point, but a need for a next level of detail. The work would not cut across any other developing standards. While this would focus initially on what is specified by CAA for commercial operations, it should also enable flexibility and extension of the standard into other areas. In the first instance use of the standard would be entirely voluntary.
- While work is progressing with a BSI standard, there is a substantial level of work with a longer term focus in Europe and within JARUS. Against the background of changing regulation, some form

of available standards in the shorter term would help to provide more stability to the industry from all stakeholders' perspectives particularly in the current changing regulatory environment.

- Once minimum standards are in place application/sector specific sections and practices can be added. It was commented that care must be taken to ensure that any recommendations are seen as progressive and not simply an 'extra set of requirements'.
- It was noted that it would be good if meeting the competencies could deliver an NQE or similar outcome. ARPAS-UK has made contact with UK NQEs to begin exploring this.
- Network Rail and the oil & gas sector are leading the way from an industry standards perspective.
- ARPAS-UK and Network Rail have continued to work together to disseminate, raise awareness of and promote Network Rail's standard within the drone operators' sector. It was commented that this work has, so far, largely focused on operational standards but – starting with a focus on what constitutes the minimum requirement – a move into technical standards could be a logical and useful progression.
- Iain Gray commented that standards are a key part of the work of the IAG and as such we should have an updates from the working group at the next meeting. **Action:** Standards Working Group to present an update at the next IAG meeting.

## 5. Government updates

**Innovate UK.** Nikos Pronios summarised recent calls. He reported that they had 7 projects underway or about to start and that as feasibility studies all have to be complete by the end of March 2018. Given that all are related and due to finish at the same time there is an intention to bring the teams together in some sort of forum event. In answer to a question Nikos said that other projects could be pulled in as appropriate. **Action:** InnovateUK to circulate public descriptions of relevant projects when they have all formally started.

John Morlidge flagged the links between drones and wider RAS calls, such as the RAI in extreme and challenging environments call that closed last week. John and Nikos then mentioned other forthcoming calls, which whilst not having an explicit drone focus, could prove relevant. These included the Emerging & Enabling call that will open in September, an Infrastructure that closes on September 13th and the Open call that closes on 9<sup>th</sup> August. **Action:** Innovate UK to provide regular updates on projects and calls. It was noted that if individuals join the KTN they will, as a matter of course, be emailed updates on funding opportunities etc.

**BEIS.** David Lane (HWU) and Brian Holiday (Siemens) have been developing a framework for a RAS sector deal and the opportunity exist to engage with this process so that drones are suitable treated. The group noted the strong overlap between drones (particularly around BVLOS operation) and RAS and tasked Iain Gray with feeding this in to the RAS sector deal development process. **Action:** BEIS officials to introduce Iain Gray (as IAG chair) to the RAS sector co-leads.

**KTN.** Phil Williams said that because of staff resources activity had focused on supporting Innovate UK on ISCF matters, but added that a new team member on AI and are looking to appoint a robotics expert. The extra band width this represents will allow interactions with sectors such as construction and agri-foods to be strengthened. The IAG noted the key role the KTN has in ensuring effective information flow and exchange. **Action:** Phil Williams to explore how the KTN can facilitate improved information flow between the IAG and industry, e.g. though developing a web profile, and report progress on this to the next meeting.

## 6. Drone consultation

The Government response to the Drone Consultation was published on Saturday 22<sup>nd</sup> July and DfT thanked IAG members for their inputs to this, particularly those who responded (at short notice) to the high level of media interest publication generated. In the wide ranging discussion the group:

- welcomed that the report reflected the IAG desire to focus on the commercial opportunities, but noted that (unsurprisingly) the press had not picked upon this.

- viewed publication as good for business in the UK and welcomed the associated commitment to action.
- Felt a medium term vision for a system that allows for drone identification and the production/ maintenance of a comprehensive register of restricted airspace were key enablers of UTM.
- Agreed views on insurance were varied and often contradictory so a working group should be set up to look at this in more detail.
- Felt many of the recommendations would require Police powers to be revised to enable enforcement. DfT reported a review of these will commence shortly.
- commented that counter drone technology developments need to be looked at. European work in this area is looking at the legal framework around jamming technology etc.
- commented that Europe is also looking at geofencing and Project Chatham (involving DfT, CAA and NATS) on critical infrastructure was an influential, UK activity.
- commented that registration will help enable BVLOS operation.
- commented that it will probably be 12-18 months before a registration scheme can be introduced.
- has concerns around the proposal to restrict all drones to below 400 feet, as some applications require you to go higher (e.g. inspecting wind turbine blades). It was pointed out that specific exemptions can be sought; the intention in this provision is to encourage leisure users to stay below this level.

At the same time DfT published the results of a safety study. DfT summarised the finding of the study, which is based on a mixture of physical testing and simulation. The results showed that even small drones can have a significant effect on helicopter blades and/or windscreens. Airplane windscreens are stronger, but the work showed that a >2kg drone could cause critical damage – albeit at speeds above those normally observed at take-off/landing. An unexpected result was the influence of design on consequence – with drones in casings doing less damage.

## **7. A vision for a vibrant drone sector in the UK**

The group felt that Government response to the consultation would draw a line in the sand, and the sector should move forward from here. Key points in discussion included:

- Need to articulate what we want to be able to do tomorrow that we cannot do today.
- To be useful for business a vision has to identify barriers and blockers.
- There is a concern that the IAG does not have a stated end goal. It needs these if it is to fundamentally influence UK and wider industry. For example should the IAG ‘grab’ BVLOS and/or UTM as potentially transformative development, and root out what is stretching but possible for UK to aim for.
- BVLOS is an area where there is general agreement that industry and Government need to come together.
- Standards are important in this but need to go further. For example BVLOS and Flying High are potentially highly complementary as are Pathfinder and UTM
- Added that to be useful any vision has got to identify where commercial value and opportunities lie.
- The IAG is not a trade group, but could play a significant role in setting out a pro-business future. This will require a strategic vision, but this needs to have associated technical detail.
- Regulation of low level airspace (geofencing) is another area where leadership is required. There is relevant activity in US and Europe and we need to ensure that the UK does not go for a bespoke approach that could the UK market somewhat isolated and sub-scale.
- CAA are regularly approached with ideas, but often these struggle to articulate how the underlying ideas can be taken forward practically.
- Do we need to set out some challenging use cases – such as for a system that can fly at 4-8,000’ for 6-8 hours?
- As the owner of linear assets we are seeking devices that can safely fly over these.

- The Industry Strategy white paper in the autumn is going to set a series of ‘moon shot’ mission goals, what might a drone moon shot include?
- Need a strand on movement of people and goods.
- As a group we are short of manufacturers and end user voices.

**Action:** Iain Gray and Chris Blackford will develop a straw man vision and associated road map and bring back a practical plan to the next meeting. This will involve the derivation of applications and associated use cases. The KTN will help maintain momentum between meetings and help engage with, and bring in, more stakeholders

## **8. AOB**

- In sending his apologies for absence Gary Clayton informed the IAG that he was stepping down from UAVS. The Group noted this and expressed a hope that he would remain actively engaged with the sector.
- The IAG would be strengthened by having a stronger end-user voice. Phil Williams had approached Ocado and Costain around their becoming engaged but contact had petered out.
- Matt Lee from ARPAS-UK presented to the RPAS 2017 conference in Brussels on 13/14 June, and referenced the Drone IAG and its work within his presentation.
- CAA officials reported that the European consultation deadline for comments has been extended to September 15<sup>th</sup>. DfT reminded those present that, as appropriate, they would like to know what was being said in responses.
- Stuart McGlynn commented that, as a group, we needed to focus activity on addressing the flow of negative stories. BEIS asked members to send in success stories/announcements.

## **9. Next Meeting**

The next meeting is scheduled for 26 September.