Drone Industry Action Group

Note of meeting, 27 April 2017, BEIS Conference Centre

Iain Gray, Cranfield University (Chair)
Joel Grundy, Thales
Gary Clayton, UAVS
Chris Fleming (for Malcolm Connelly), CyberHawk
Chris Blackford, Sky Futures,
Sue Wolfe, ARPAS-UK
Andrew Heaton, UCLan
Paul Lisburg (for Simon Ritterband), Moonrock
Neil Kidd (for Richard Parker), Altitude Angel

Phil Binks, NATS
Wendy Welsh, Network Rail
Owen McAree, Sheffield University
Phil Williams, KTN
Nikos Pronios, InnovateUK
Gerry Corbett, CAA
Louis Barson, BEIS
Gordon Baker, BEIS
Elena Lynch, DfT

Guests:
Matt Lee, ARPAS-UK
John Laughlin, NESTA

Tris Dyson, NESTA

Apologies:
Jeegar Kakkad, ADS
Paul Rigby ConsortiQ

Simon Dale, FirstPersonVIew
Richard Deakin, airmap

1. Government / agency updates:

DfT: Consultation closed 15 March with over 700 responses from industry, model aircraft, public, landowners, LAs, police and others. While the work of the team to scope and analyse options continues, any policy decisions will be for the new Government post-election. The Civil Service is now in Purdah, so no public statements could be made. The Transport Bill process and Select Committee have both stopped.

BEIS is similarly constrained, but the team is working with industrial strategy colleagues to explore whether and how drones could fit with wider work on sector deals.

InnovateUK has announced £93m for Robotics and Artificial Intelligence (part of Industrial Strategy Challenge Fund), for applications in extreme environments (including the use of drones in such environments). Workshops were held last week and announcements of opportunities and funded programmes (including cross cutting capabilities, data and technology challenges) would be shared with the group when available. **Action**: Nikos Pronios to disseminate to group when available.

Robotics KTN: The group has been re-energised (including with funding for coming 2-3 years) under a modified "Robotics and Artificial Intelligence" banner. They are recruiting 2 specialists and hope to play a more active role in improving linkages between and across robotics sectors, including drones.

Other: DfT technology foresight activity, led by Transport CSA (Phil Blythe) and CCAV is relevant to drones. **Action:** DfT to ensure links between the two groups are made.

2. STANDARDS

A: **Matt Lee, ARPAS-UK**. Matt is the new Standards director, also a passenger airline pilot, who runs a NQE. ARPAS-UK has c500 members, mostly focusing on drone imaging services, but with increasing involvement of larger end users, eg construction cos. Recent member survey highlighted regulation, CPD and standards as critical issues. ARPAS-UK is focusing on NQEs, Permission for Commercial Operations with the British Standards Institute (meeting 2 May) and some discrete industry specific actions (eg in Oil&Gas and Rail).

==Action==: All are invited to engage with ARPAS-UK further as these develop. ARPAS-UK/ UAVS/ BEIS to ensure linkages made with robotics team at BSI and share outputs/ outputs with the IAG.

B: **Wendy Welsh, Network Rail** introduced her work to improve monitoring data available to railways – including through an existing drone supplier framework and new drone standards. Wendy outlined the simple, safe, compliant framework she has developed (attached)

- 2013/14 safety bulletin on protocols for engagement, then a tender process and supplier framework established with a small number of approved contractors.
- **June 2016**: Implemented new assurance code through the [Railway Industry Supplier Qualification Scheme](#) (companies need to qualify through audit with RISQS to be eligible to provide unmanned aircraft services to Network Rail)
- **December 2016:** Published new drone procedure *(attached)* detailing minimum requirements of organisations, pilots and equipment, definitions and reporting needs.

Next steps include developing internal capability and procedures (eg incident response, survey), developing a deconfliction map / app and considering larger drones over longer distances.

C. **Owen McAree, Sheffield University** (slides attached) outlined the challenges of autonomy and how systems fail, as they inevitably will. How can we define failure and develop a process to agree appropriate reactions and boundaries so that the industry can then embed accountability. Once drones have autonomy, they will need verification to be embedded and continuous.

The group suggested close working with autonomous cars and their forums at UK, European or global level. BSI robotics experience was that academia can lead industry in these highly technical areas, rather than industry leading the standards. There is little international cohesion (and some are much more permissive than the UK), so an opportunity exists for the UK to take a lead.

InnovateUK underscored the complexity of this but that they have funded companies that are doing this and are hosting a May workshop with software and system verification companies.

==Action==: All to disseminate and introduce across their networks, in particular InnovateUK, CAA NATMAG, Rail Innovation Centre, CESAR/ EASA/ GUTMA, pathfinder programme and a new ADS drone group, to ensure all are joined up. The droneiag.slack.com channel could be used for this.

==Action==: Establish a Task and Finish group to scope and present the group's role and views on drone standards, with the expectation for the group to endorse and use to inform government with specific, actionable proposals. This group will report progress at the next IAG meeting. Membership still TBC: including Sue, Wendy, Owen.

3. **NESTA 'Flying High**'

Tris Dyson and John Laughlin of NESTA outlined their proposed public demonstrator programme, partnering with key UK cities (see attached). The project emerged following a discrete piece of work with Uber on the viability of drone taxis. Technology is moving rapidly, but cities have hardly considered it, and will have a key role in shaping the experience from the demand side. They have engaged globally, and regard the UK to be behind international leaders. They have met with dozens of UK cities to introduce their concept and scope possible drone benefits and disbenefits.

NESTA was an impartial convener and well placed to draw on multi-stakeholder perspectives. Next step was to get formal approval internally (expected Autumn 2017) and scope likely targets including Belfast, London, Cambridge, Aberdeen and others.

The group remarked on the valuable perspectives a public project of drone use in a complex city environment could elicit and suggested learning from Singapore's 'connected city' activity and New Zealand ambitions. NATS offered their support and CAA agreed to respond to any specific issues arising.

==Action==: members to disseminate info through their networks and make relevant introductions to John and Tris, especially regarding possible partners (cities, funding and technical support, town planners, architects, etc).

4. IAG role

Gordon Baker, BEIS led a short consideration of how the group could better fulfil its ambitious scope (attached). After the meeting, a small group of members committed to drafting a vision for the sector for presentation to the group at the next meeting.

==Action==: Phil Binks and Neil Kidd (with support from KTN) to meet, draft and present back to the group at the next event.

AOB

Gerry Corbett reminded the group that EASA's drone NPA is due imminently (1st week of May) and that he will circulate to the group, together with his summary notes of what it entails. EASA will host an information event (expected 5 July). Respondents will have 3 months to consider and feed in their views.

Next meeting: Dates for IAG meetings to end 2017 will be circulated shortly. Agenda for next meeting could include: drone vision and standards update; outreach options.