

**Drone Industry Action Group  
19 October 2021 – Minutes  
(by videoconference)**

**Attendees:**

<b>Chair:</b> Iain Gray, Cranfield University	Gareth Beverley, Consortiq
Rikke Carmichael, Network Rail	Samantha-Lea Wooton, BSI
Simon Ritterband, Moonrock Insurance	Simon Ritterband, Moonrock
Brian Hampson, ADS Group	Ian Williams-Wynn, Blue Bear
Fred Harbottle	Will Arinze, Animal Dynamics
Neil Watson, Thales	James Matthews, PA Consulting
James Scanlan, Southampton Uni	Richard Nichols, Airwards
Graham Brown, ARPAS	Richard Deakin, Stratospheric Platforms
James Dunthorne, ARPAS	Gary Cutts, Future Flight
Mike Gadd, Altitude Angel	Nikos Pronios, Innovate UK
Stuart McGlynn, Cyberhawk	John Morlidge, InnovateUK
Aleks Kowalski, Skypointe	Liam Braeger, Satellite Applications Catapult
Owen McAree Aerofirm	Andrew Chadwick, Connected Places Catapult
Phil Tarry, Halo Drones	Steve Close, Connected Places Catapult
Daniel Wilson, BT	David Tait, CAA
Will Barnes, Frazer-Nash	James Gavin, MOD
Craig Roberts, PWC	Officials from BEIS, DFT and Home Office
John McKenna, sees.ai	

## **1. Welcome and sector ambition proposal**

The Chair welcomed the group, remarking it had been a significant break since the last DIAG meeting in April. He and a small group of a dozen had been pushing ahead, together with government, to outline the core components of the ambition statement. The meeting would include the usual government updates and presentations from PWC and BEIS.

## **2. Government updates**

**DfT:** Officials highlighted the live [Future of Flight consultation](#) seeking input on the future regulatory framework for emerging transport technologies.

**For Action:** Drone IAG participants were encouraged to respond individually as they saw fit. The Chair proposed to send a brief response in on behalf of the DIAG all were welcomed to propose key points to the Chair, and encouraged to respond when the draft is distributed to the group.

**CAA** David Tait outlined key areas of activity

- **Airspace Modernisation Strategy:** This is being refreshed due out in Q1 2022 and is a focal point for CAA's broader airspace policy including drone integration out to 2040. CAA continues to engage actively.
- **UTM:** CAP 2262 proposed the CAA's plan of activities and calls for input into companies immediate needs of UTM, including use case examples to build regulations around.
- **BVLOS trials** are progressing well. Flylogic and Trax projects mandate transponders and operate in places that don't threaten other airspace users. CAA is receiving new approaches to run further trials. Learning from CPC pathfinder trials is going into Future Flight Safety Risk assessments for these activities, which will provide guidance for all of industry. The wider BVLOS sandbox challenge aims to support tech to detect non-cooperative aircraft,

conspicuity and traffic management. Future Flight is sponsoring study on target levels of safety for detect and avoid systems.

- **CAA operations:** In response to a question about SORA, David responded the expectation was that the CAA's risk assessment process would be contextualised for use in the UK environment.
- David acknowledged bandwidth constraints within the CAA, especially around approvals. They had received a lot of feedback from stakeholders and welcomed this in their aim to improve how they work. All were encouraged to provide candid and timely feedback to Frederic Laugere in Innovation Services.

**Future Flight:** Gary Cutts updated the group across a number of activities:

- **Phase 3 was open until 11am on 3 November (For Action: applications welcomed)**, covering two strands. 1: flying / simulation execution (£500k - £15m). 2: cross cutting or developing capabilities (£500k-£4m). While uncertain, he expects to be oversubscribed with good quality applications.
- **Process:** Independent assessors provide a quality score against criteria. Applicants would be invited for interviews to probe the projects. Those that achieve a minimum benchmark then form a portfolio of projects, which are then awarded to achieve breadth and complementarity of aircraft (incl drones) with essential digital, comms, etc investment and infrastructure). Companies should refer to [the roadmap](#) to understand their priorities. They would prefer ambitious projects involving real use cases and breaking new ground. Example provided included scale up operations, practical applications of drone swarms and extended BVLOS or end to end logistics operations.
- **Enablers:** Pending the arrival of the new applications the team were looking at how technologies will develop and the critical elements and deliverables to enable these. These enablers are being mapped then as to whether they have an owner, whether the owner is aware and active and where there are gaps. A critical working group is about to launch on airspace integration; another expected to be on safety case; and possible others including community integration and/or infrastructure.
- Other activity included:
  - Social sciences engagement led by newly appointed research director Professor Fern Elsdon-Baker across economics and wider social sciences. This will drive further engagement
  - Skills agenda: what gaps what do we need to be preparing for
  - Finance and scale-up investment: eg there is a lot of investment in aircraft but less understanding of investment in other components
  - Standards: engaging with BSI on what needs to be done and how to generate relevant sector standards

**MOD:** James Gavin, head of the Future Capabilities Group updated on their desire to work with the UK's advanced drone and robotics companies, across a wide range of potential use cases.

- The FCG comprises 120 staff and a budget of c £300m across 3 years. His group seeks to test and procure whole systems, across technologies supported by DSTL, DASA, InnovateUK, etc
- Examples of technology interests include: Nano UAS (framework reopens every 6 mths); Last mile resupply ('Theseus', integrating land and flying systems, which will shortly announce UK drone company successes); Urban UAS; Multi-Domain Integrated Swarms; Heavy Lift Challenge, high altitude platforms etc.
- Ship to ship transport is a key area of demand; their data suggests the majority of helicopter flights carry less than 100kg. They want to increase safety and reduce cost by using drones.

**For Action:** All live and future opportunities can be accessed via the [Defence Sourcing Portal](#). James welcomes invitations to speak at sector events to raise awareness and engage drone innovators.

Following the meeting, James passed on this information, summarising his slides.

- DES Future Capability Group continues to expand its portfolio of UAS related projects, based on the BATSO principle – Buy And Try Scale Operate. It welcomes cross-sector awareness of its acquisition goals of mature and maturing capability which it can help accelerate into operational usage.
- FCG does not do research: This is for DSTL, DASA, UKRI, etc. FCG acquires, trials and helps to mature already viable technology in the context of operational needs, which includes early operational use. FCG uses principles aligned to Agile, including spiral development, to do so.
- Current intent is to continue funding further acquisitions of Nano-UAS, Medium sized UAS (e.g. for heavy lift) and in the future heavier vehicles (ISR, heavy lift, etc). The latter are largely Rotary Wing but fixed wing solutions for Heavy Lift and also High Altitude Platforms (HAPS) are currently being considered.
- FCG continues to grow the Expeditionary Robotics Centre of Expertise (ERCOE) which includes the current UAS portfolio so we can start to cohere a commercial pipeline to improve demand signals to the UAS market
- FCG has an above average number of UK company and UK SME competition winners across its portfolio, and is keen to build on investment previously made by other HMG departments, such as BEIS, via open competition. FCG applies, in line with the Defence and Security Industry Strategy, a percentage of marks to competitions under the 'UK Social Value' mandate.

**Connected Places Catapult:** Andrew Chadwick updated as below:

- Pathfinder Catalyst programme has awarded Conscious Communications the contract to develop and deliver the Marketing & Communications Campaign for the programme, supporting the work of the CPC Communications Team.
- End user engagement and use case demonstrations continue, with a DIN Lab webinar last month targeting housing sector use of drones. Further demos on the coming weeks are expected of drone in a box, agriculture and Network Rail.
- Public engagement: Trinity McQueen has survey results from 2000 people and is distilling a report on the findings of that work. Initial findings of the findings were presented at the recent Pathfinder Community Event.
- D-TRIG: Funding has been provided to 6 SMEs: projects are progressing well, with companies engaged with the CAA. CPC is planning a D-TRIG webinar shortly.
- Future Air Mobility accelerator programme will offer sponsors and mentors to support growth of drone innovators. A current cohort was being interviewed and a dozen winners would be announced shortly.
- CPC would be hosting workshops with BEIS in November, to support a better understanding of end users adoption of drones and barriers they faced.

### **3. PWC Skies without Limits 2018 – proposed refresh**

Craig Roberts outlined that PWC is currently re-running the analysis that fed into the Skies Without Limits 2018 study of the impact on UK GDP of adopting drones. This will include more detailed sectoral breakdowns of the drone opportunity and highlight key barriers and challenges. The report will include a dozen case studies expected to represent the principal impact in the future and describe named (principally UK) companies' capabilities.

**For Action:** Craig welcomed DIAG input on examples they felt would have the most resonance.

In discussion the following points were made:

- Gas detection and thermal imaging could be of interest, beyond the energy sector to record waste and emissions monitoring.

- Telecomms companies are considering whether high altitude long endurance drones could support communications links.
- There is real potential across NHS for interconnected drone operations for healthcare deliveries. We know these have high public acceptance
- Drones are being seen in indoor / underground flight (reservoirs, tankers, pipes, tunnels, etc)

#### **4. Sector Ambition Statement**

BEIS presented on the emerging approach to the drone sector ambition. This would articulate an ambition, outlining the opportunity (drawing on PWC research), and include a roadmap of short-term activity to boost end user adoption and longer term regulatory and technology direction. A further discussion on the emerging narrative would be arranged.

Slides were presented (attached). **For Action:** DIAG input was sought to articulate where and how the drone sector is investing and driving agenda forward activity relevant to the 2030 ambition.

#### **5. AOB**

**Counter-drone** (update received after the meeting): The Home Office Counter-Drones Unit and Joint Security and Resilience Centre are currently looking to plan another counter-drone industry engagement forum which will likely take place in late November. Invites are yet to be sent out, but if you are interested in learning more please do sign up to our counter-drones industry bulletin [here](#).