Consolidated Drone/Balloon/Model/Unknown Object Summary Sheet for UKAB Meeting on 21st July 2021

Total	Risk A	Risk B	Risk C	Risk D	Risk E
5	3	0	2	0	0

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location[1] Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2021074	8 Jun 21 1143	BE200 (Civ Comm)	Drone	5330N 00210W Moston 3000ft	Manchester CTR (D)	**The BE200 pilot** reports that they were accompanied by an experienced CPL holder Flight Operations Assistant (FOA) in the front right seat. Visibility was excellent with clear blue sky and light surface. The aircraft was in a right-hand descending turn on right base for the ILS RW23R at Manchester. Passing through about 3000ft the FOA pointed to the 11 o'clock position and said "there's a drone!". The Captain looked up from the instruments and, with their peripheral vision, caught sight of what they thought was a large black crow passing by the port wingtip. The Captain asked the FOA whether they were sure it was a drone and, as they were very certain, the incident was reported to ATC. On discussion after landing, the FOA described the drone as frisbee-sized and shaped, which they saw in detail because it was so close to the aircraft, and was able to say it looked very much like a child's toy with no obvious camera underneath. Looking on the internet, the drone was identified. It is apparent that if radio signal is lost to it will then continue with the last known command until the battery depletes, so it is possible that a vertical climb for the 8 minute battery life could have reached their altitude. **Reported Separation:** 0ft V/2m H **Reported Risk of Collision:** High **The Manchester Controller** reports that the BE200 pilot reported a drone whilst on right base for RW23R. The description given by the crew was a small toy-like, purple drone with a green light, missing their left wingtip by around 10ft, at an altitude of approx. 3000ft. This information was passed to inbound aircraft for the next 30min.	In the Board's opinion the reported description of the object was sufficient to indicate that it could have been a drone. **Applicable Contributory Factors:** 1, 2, 3, 4, 7 **Risk:** The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.	A

[1] Latitude and Longitude are usually only estimates that are based on the reported time of occurrence mapped against any available radar data for the aircraft's position at that time. Because such reported times may be inaccurate, the associated latitudes and longitudes should therefore not be relied upon as precise locations of the event.

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location[1] Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2021077	8 Jun 21 1925	B737 (CAT)	Drone	5240N 00059W 5NM ENE of Leicester FL061	E Mids CTA (D)	**The B737 pilot** reports that they were on descent into East Midlands Airport and were instructed to fly a heading of 350° while being vectored for the ILS RW27. They had started to slow from 250kt to 210kt and, on passing FL61 at about 220kts, they looked out to their right and caught a glimpse of an object, just off the wingtip, which appeared to be a drone with 4 engines, at the same level. They reported it to ATC and landed without further incident. **Reported Separation:** 0ft V/10m H **Reported Risk of Collision:** High **The East Midlands Radar controller** reports that the B737 was inbound to East Midlands Airport when the pilot reported a drone at approximately 6000ft and approximately 4NM south of LESTA. The drone was seen passing within 200ft of the aircraft by the First Officer and was described as silver with 4 rotors.	In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone. **Applicable Contributory Factors:** 1, 2, 3, 4, 7 **Risk:** The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.	A
2021078	9 Jun 21 2015	B757 (CAT)	Drone	5250N 00110W 5.6NM E East Midlands 2000ft	E Mids CTR (D)	**The B757 pilot** reports on final approach for East Midlands, at 5.6NM on the ILS, when they saw a black object, about 2ft across, which appeared to be a drone flying in almost the opposite direction on final approach. It was in such proximity that the captain could see flashing red LEDs underneath it. The drone was reported to ATC and the crew elected to continue the approach because it was clearly visible and on a diverging vector. **Reported Separation:** 10-15m V/20m H **Reported Risk of Collision:** NR	In the Board's opinion the reported description of the object was sufficient to indicate that it could have been a drone. **Applicable Contributory Factors:** 1, 2, 3, 4, 7 **Risk:** The Board considered that the pilot's overall account of the incident portrayed a situation where safety had been much reduced below the norm to the extent that safety had not been assured.	A

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location[1] Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2021091	18 Jun 21 1010	DJI Mini Drone (Civ UAS)	Drone	5322N 00127W Sheffield Train Station 40m	London FIR (G)	**The DJI Mini Operator** reports that a Network Rail Mini 2 was being used to carry out low-risk low-height aerial imagery of Sheffield train station for a continuous project by a certified Drone Operator when they saw another Mini 2 in proximity to their own. The other drone was grey with no clear markings and was 10m from the Network Rail drone and 40m from the Operator. The Drone Operator landed the aircraft and packed it away. They then followed the 'rogue' aircraft, that was being flown in a manner best described as erratic, and lost sight of the aircraft once 500m from the train station. The Drone Operator dynamically risk-assessed the flight and made the decision to cancel the visual inspection and data capture and land, to remove the risk of a mid-air collision. There were no other recorded flights in the area on any electronic systems. **Reported Separation:** 1ft V/10m H **Reported Risk of Collision:** High	In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone. **Applicable Contributory Factors:** 4, 5 **Risk:** The Board considered that the pilot's overall account of the incident, including that the operator was able to take avoiding action and land the drone, portrayed a situation where although safety had been reduced, there had been no risk of collision.	C
2021102	1 Jul 21 1209	C208 (Civ FW)	Unk Obj	5110N 00039E Lashenden/ Headcorn 9500ft	London TMA (A)	**The C208 pilot** reports that they saw a small object at 9500ft when climbing for a parachute drop. The object was a dark colour (possibly black) and about 1m^2 in size. No avoiding action was taken. In their opinion, this could have been a drone. **Reported Separation:** 0ft V/100m H **Reported Risk of Collision:** Medium **The NATS Safety Investigation** reports that the pilot of [the C208] reported an unmanned object in the Headcorn drop zone at approximately 9500ft as the aircraft climbed to FL120. Nothing was observed on radar by the controller and the pilot subsequently stated it may have been a balloon or drone and approximately 2ft in diameter. The pilot of [the C208] reported this sighting as an Airprox. Analysis of the radar by Safety Investigations indicated that there were no associated primary or secondary contacts visible on radar at the approximate time of the event.	In the Board's opinion the reported altitude and/or description of the object were such that they were unable to determine the nature of the unknown object. **Applicable Contributory Factors:** 4, 5 **Risk:** The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.	C

Relevant Contributory Factor (CF) Table

CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Human Factors	• Flight Crew ATM Procedure Deviation	An event involving the drone operator deviating from applicable Air Traffic Management procedures	The drone operator did not comply with regulations by flying above 400ft and/or in controlled airspace/FRZ without clearance
	• Tactical Planning and Execution			
2	Human Factors	• Action Performed Incorrectly	Events involving the drone operator performing the selected action incorrectly	The drone operator was flying above 400ft without clearance.
3	Human Factors	• Airspace Infringement	An event involving an infringement / unauthorized penetration of a controlled or restricted airspace	The drone pilot was flying in controlled airspace/FRZ without clearance.
	• Situational Awareness of the Conflicting Aircraft and Action			
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, generic, or late Situational Awareness
	• See and Avoid			
5	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft
	• Outcome Events			
6	Contextual	• Near Airborne Collision with Other Airborne Object	An event involving a near collision by an aircraft with an unpiloted airborne object (unknown object or balloon)	
7	Contextual	• Near Airborne Collision with RPAS	An event involving a near collision with a remotely piloted air vehicle (drone or model aircraft)	