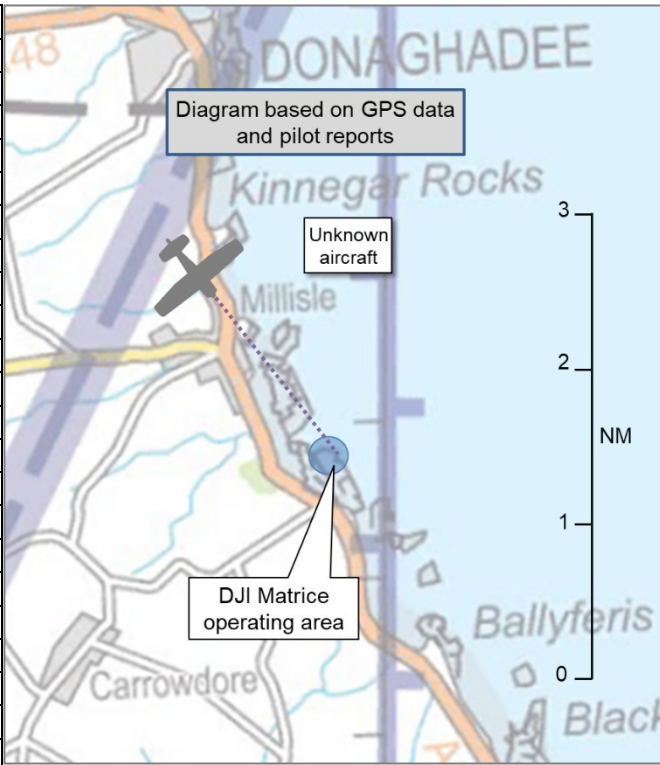


AIRPROX REPORT No 2022097

Date: 01 Jun 2022 Time: ~1521Z Position: 5436N 00531W Location: 6.5NM E Newtownards

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DJI Matrice	Light-Aircraft
Operator	Civ UAS	Unknown
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	VLOS	NK
Service	None	NK
Provider	N/A	NK
Altitude/FL	~220ft	NK
Transponder	Not fitted	NK
Reported		
Colours	Black	NK
Lighting	Nav	NK
Conditions	VMC	NK
Visibility	>10km	NK
Altitude/FL	213ft	NK
Altimeter	agl (NK hPa)	NK
Heading	210°	NK
Speed	15.5kt	NK
ACAS/TAS	Not fitted	NK
Separation at CPA		
Reported	0ft V/100m H	N/A
Recorded	N/K	



THE DJI MATRICE PILOT reports that whilst conducting an aerial survey of the shore on Millisle beach, and flying a heading of approximately 210° at a speed of 15.5kt (pre-set 8m/s) at 213ft (pre-set 65m) AMSL, a light, manned, fixed-wing single-engine aircraft flew past their UAV and area of operations along the shoreline on a south-easterly heading of approximately 140°, at an approximate horizontal distance of 100m, and a similar altitude of 213ft, although this was hard to accurately ascertain from their ground position. From their position of 64m from the UAV, they did not see, or hear, the approach of the aircraft whilst the UAV completed the first flight line. They then checked to the right of their position across to the adjacent car park area to ensure no member of the public had encroached. As they turned to maintain visual line of sight with the UAV, the aircraft flew past at an approximate horizontal distance of 100m, at an unknown speed, on a south-easterly heading. As the [light-aircraft] pilot made no evasive manoeuvres that they can report, they can only speculate that the pilot had not seen the position of the UAV. The aircraft then continued on the same heading and left the area. As the incident occurred so rapidly, they were unable to initiate an emergency rapid descent prior to the passing of the aircraft. They immediately paused the autopilot to take control, whilst also checking to ensure the area was clear before initiating the return to home landing. Upon landing, they made the decision to abandon the flight plan, should the same aircraft return to the area. All checks were completed prior to the UAV mission and no NOTAMs or PINS had been issued for the area for that day.

The pilot assessed the risk of collision as 'High'.

THE LIGHT-AIRCRAFT PILOT could not be traced.

Factual Background

The weather at Belfast City was recorded as follows:

METAR EGAC 011520Z AUTO 03007KT 9999 NCD 17/06 Q1019

Analysis and Investigation

UKAB Secretariat

In an effort to identify the unknown light-aircraft, airfields in the locality were contacted. Resident aircraft and pilots were discounted along with any that had been visiting around that time. It has therefore not been possible to trace the pilot of the unknown light-aircraft.

The DJI Matrice and unknown light-aircraft pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.¹ During the flight, the remote pilot shall keep the unmanned aircraft in VLOS and maintain a thorough visual scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of collision with any manned aircraft. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property.²

Summary

An Airprox was reported when a DJI Matrice and an unknown light-aircraft flew into proximity 6.5NM east of Newtownards at approximately 1521Z on Wednesday 1st June 2022. The DJI Matrice pilot was operating under VLOS in VMC, the unknown light-aircraft pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of the report from the DJI Matrice pilot and local weather information. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board discussed the actions of the DJI Matrice pilot and examined the information they had provided in their report. The members agreed that, prior to becoming visual with the light-aircraft, the DJI Matrice pilot had not had any awareness of its presence (**CF1**). Members had been encouraged that the DJI Matrice pilot had checked that their next area of operation had been clear prior to manoeuvring their UAS towards it. Members noted that after completing this check, the DJI Matrice pilot had become visual with the light-aircraft, at which time it had been too late for them to have taken any effective avoiding action (**CF2**). The Board agreed that the proximity of the light-aircraft to the DJI Matrice had caused the pilot some concern (**CF3**).

The Board then considered the risk involved in this Airprox. Although limited, members were satisfied that there had been enough information available to enable them to make an assessment of the risk of collision. The Board considered the altitude at which the light-aircraft had been reported and also the separation. Members noted that the DJI Matrice pilot had not had any prior awareness of the presence of the light-aircraft, nor had they had time to take any effective avoiding action. However, members did agree that, although safety had been degraded, there had been no risk of collision. Consequently, the Board assigned a Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022097			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			

¹ (UK) SERA.3205 Proximity.

² Regulation (EU) 2019/947 as retained (and amended in UK domestic law) Under the European Union (Withdrawal) Act 2018 - UAS.SPEC.060 Responsibilities of the remote pilot (2)(b).

1	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
• See and Avoid				
2	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
3	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

Degree of Risk: C

Safety Barrier Assessment³

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the DJI Matrice pilot had not had any prior awareness of the presence of the light-aircraft.

See and Avoid were assessed as **ineffective** because the DJI Matrice pilot had only become visual with the light-aircraft at a time when it had been too late for them to take effective avoiding action.

		Airprox Barrier Assessment: 2022097		Outside Controlled Airspace					
				Effectiveness					
				Barrier Weighting					
				0%	5%	10%	15%	20%	
		Barrier		Provision	Application				
Ground Element	Regulations, Processes, Procedures and Compliance	●	●						
	Manning & Equipment	●	●						
	Situational Awareness of the Confliction & Action	●	●						
	Electronic Warning System Operation and Compliance	●	●						
Flight Element	Regulations, Processes, Procedures and Compliance	●	●						
	Tactical Planning and Execution	●	●						
	Situational Awareness of the Conflicting Aircraft & Action	●	●						
	Electronic Warning System Operation and Compliance	●	●						
	See & Avoid	●	●						
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	●	●	●	●					
Application	●	●	●	●					
Effectiveness	■	■	■	■	□				

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).