

## Accident

<b>Aircraft Type and Registration:</b>	Experimental Drone Variant 4J	
<b>No &amp; Type of Engines:</b>	4 electric motors	
<b>Year of Manufacture:</b>	2025 (Serial no: PT-1046)	
<b>Date &amp; Time (UTC):</b>	11 December 2025 at 1500 hrs	
<b>Location:</b>	Salisbury Plain Training Area, Wiltshire	
<b>Type of Flight:</b>	Commercial Operations (UAS)	
<b>Persons on Board:</b>	Crew - N/A	Passengers - N/A
<b>Injuries:</b>	Crew - N/A	Passengers - N/A
<b>Nature of Damage:</b>	UA destroyed beyond economic repair	
<b>Commander's Licence:</b>	CAA Level 1 and 3 Category A	
<b>Commander's Age:</b>	32 years	
<b>Commander's Flying Experience:</b>	60 hours (of which 7 were on type) Last 90 days - 7 hours Last 28 days - 2 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

During a verification and validation test flight of a fixed wing UA command and control was lost. The flight was terminated when it was confirmed the UA was over a safe area. The UA descended to the ground and the wreckage recovered. A fault was found within its navigation module which caused it to breach the geofenced area in which it was flying. The operator has taken safety actions which introduce a fall-back logic within the system which can switch to other navigational sources and has modified the user interface to provide a clear alert to the remote pilot in the event of a positioning data anomaly.

## History of the flight

A UA was conducting a verification and validation test flight within an authorised test area. Shortly after launch the ground control station experienced a loss of command and control which led to the UA disregarding its preset geofence. Attempts to recover accurate navigational control were ineffective and, when it was confirmed the UA had not strayed over a populated area, the ground control operator initiated an immediate flight termination. The UA entered a vertical descent and struck the ground.

## Technical cause

The operator recovered the UA wreckage and conducted an investigation to determine the cause of the loss of control. It found that the 'in-house' navigation module undergoing

the test was faulty. Whether it was a hardware or software fault could not be positively determined. This module manages both visual and the fall-back logic to alternative systems such as GPS. The fault prevented the module switching to alternative navigational sources and led the UA to become 'trapped' in a non-recoverable navigation state resulting in its breach of the geofence.

### **Operator's analysis**

The operator considered that this event highlighted the need for clearer flight termination procedures to be briefed pre-flight and for robust Emergency Response Plan training for the remote pilots. The operator's Safety Review Board has mandated a staged return to flight to mitigate any risks.

### **Safety action taken by the operator**

The operator identified that the UAS navigation system was unable to switch to an alternative navigational data source. Therefore, the operator has taken the following safety actions.

A fall-back logic which can switch to other navigational sources has been integrated into the flight control system.

Modified the user interface to provide a clear alert to the remote pilot in the event of a positioning data anomaly.