A comparison of uncrewed versus crewed police air assets in managing law enforcement mission profiles

Assessing the comparative advantages and limitations of uncrewed versus crewed air assets in managing the three most common police mission profiles over London.

Key details

Lead institution	University of West London
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Police region	London
Collaboration and partnership	• National Police Air Service • Metropolitan Police Drone Units
Level of research	Masters
Project start date	November 2023
Date due for completion	March 2024

Research context

Due to Remote Piloted Air System (RPAS) being an emerging and developing industry, there is little research on best practices for using these air assets in law enforcement. In contrast, many law enforcement agencies globally use both helicopters and airplanes. Numerous tactics and methods have been developed to use these assets efficiently. A further complication is that commercial airports and associated infrastructure (airspace and airways) exist over high population areas, to serve the community and sell a service. Due to population density, it follows there is a greater need for law enforcement in these areas, compounding more aviation assets into the same area.

While crewed air systems have significant professional experience, the recruitment and development of crews to remotely pilot the RPAS have had little to no collaboration. This has resulted in inefficiencies and operational deficiencies in the RPAS operation. Senior leadership and decision makers are also keen to realise the cost savings of uncrewed air systems against crewed. While an RPAS seems cheaper to operate, capabilities and mission results have had no side-by-side comparison, so the only comparable metric is cost. As there are numerous missions where police air assets may be requested for assistance, the research will look at the three most common types, measured by the number of occurrences, or 'call-outs'.

This research aims to establish whether or not an RPAS can fulfil all the tasks of an uncrewed aircraft, or if a blended approach where both crewed and uncrewed systems operate together would be more advantageous. With the added complication of congested airspace, and the curtailments of RPAS operation in congested airspace, this research aims to give a balanced evaluation measuring cost, operational efficiency and safety.

Research methodology

The researcher is to undertake mixed-methods research, initially to draft and submit self-completion questionnaires to all operators of the crewed helicopter unit and the uncrewed RPAS units which serve London.

After these questionnaires, an interview will be sought for five operators from each crewed and uncrewed organisation.

Alongside this, the researcher is attempting to arrange visits to observe the crewed and uncrewed operators. These will be arranged for the same day of the week, to ensure that any variance in day-to-day work would be as similar as possible. This will increase the reliability and validity of the data.

In all respects, both organisations will be assessed against the same metrics and standards to gather data which can be easily and fairly compared.

Research participation

Anyone with experience of crewed air support or uncrewed/RPAS is invited to email the researcher at 21558322@student.uwl.ac.uk

Tags

- Operational policing