

<b>Meeting</b>	<b>SPA Policing Performance Committee</b>
<b>Date</b>	<b>17 March 2022</b>
<b>Location</b>	<b>Video Conference</b>
<b>Title of Paper</b>	<b>Fleet and Wind 8 Replacement</b>
<b>Presented By</b>	<b>Chief Superintendent Thom McLoughlin, Operational Support</b>
<b>Recommendation to Members</b>	<b>For Discussion</b>
<b>Appendix Attached</b>	<b>No</b>

**PURPOSE**

The purpose of this paper is to provide an update with regards to replacement of the current fleet of operational drones and an exchange offer for an older, now redundant platform.

The paper is presented in line with

- Scottish Police Authority Committee Terms of Reference in relation to Police Scotland Use of RPAS (drones).

Members are invited to discuss the contents of this paper.

## **1. BACKGROUND**

- 1.1 Police Scotland currently utilises two types of drones - the Phantom 4, which is used primarily for training and aerial image tasking and the M210, used for missing person searches and support to other types of policing incidents such as firearms, public order, etc. Both types are manufactured by DJI.
- 1.2 Following notification from the suppliers the M210 type will no longer be supported by the manufacturer as of January 2022. The platforms can still be used operationally however, as is currently being experienced, batteries are beginning to degrade and there will be little or no replacement capability for that make and model moving forward.
- 1.3 The Phantom 4 drones are no longer supported by the manufacturer and are obsolete. These have now been replaced in February 2022, following approval at the Air Support Monitoring Group, with a modern equivalent, the DJI Mavic Mini drone and will continue to be used primarily for training.

## **2. RPAS FLEET**

- 2.1 All drones require firmware updates, provided by the manufacturer, similar to bug fixes and updates on smart phones. Without updated firmware a drone can suffer reliability and performance issues which render it unsafe to fly.
- 2.2 The M210, purchased in 2019, are no longer marketed by the manufacturer and have been replaced by a newer version, the M300 which is currently being used by many Forces in England & Wales. DJI have intimated that the M210 platform will not be firmware supported by early 2022.
- 2.3 The M210 is powered by two batteries. As these batteries get older and after a large number of charges and discharges they start to lose capacity and, in certain circumstances, they can swell within their casing. If this happens they are withdrawn from use immediately. This is now the case with 50% of the batteries at all our operational drone bases (Aberdeen, Glasgow and Inverness). This reduces operational capability as teams are left with fewer batteries and they require more frequent charging.

## 2.4 **Best Value**

2.5 In 2018 a set of key minimum requirements were established by Police Scotland Air Support Unit in terms of drone functionality, operational capability and reliability:-

- ability to carry dual sensor cameras capable of viewing and recording imagery
- ability to deploy in adverse weather conditions, low outside temperatures and strong winds
- ability to perform multiple deployments with mobile battery charging facility to sustain continuous operation
- simplicity of use, speed of deployment and portability
- overall weight including payload not exceeding 20kgs
- minimum flight time of 20 minutes

These requirements were agreed in conjunction with Police Scotland Procurement and a tender process was initiated.

2.6 As drone technology continues to advance at pace, newer versions of drones become available which meet and exceed the above requirements, in particular, weather proofing and increased performance and flight time. Police Scotland Air Support Unit constantly monitor the ever evolving drone technology, identifying equipment which meets Police Scotland's needs. Innovation will be included in the Police Scotland Air Support Strategy.

## 2.7 **Replacement RPAS**

2.8 The current operational platform, M210, has been superseded by the newer M300 also manufactured by DJI. Many Forces in England have been using the M300 for over 12 months. Importantly, assessment from other UK forces indicates that the M300 has proved a very capable and reliable platform and has not suffered manufacturing faults like the M210. Research has found that there are currently no other viable alternatives that meet the Police Scotland requirements.

2.9 Therefore it is recommended that the M300 is considered a viable alternative to our current RPAS fleet to replace the M210. This will provide increased performance, increased flight time, ability to fly in rain and reassurance through a proven operational track record. This platform is compatible with the Downlink system which was

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purchased earlier this year and is referenced in other Committee papers.

2.10 The DJI M300 is **NOT** capable of facial recognition, nor are its sensors. To provide fleet resilience, training, research & development, four M300 are required. Once the M300 is purchased the M210 will be immediately withdrawn from use.

### 2.11 **Wind 8**

2.12 Police Scotland have been offered an exchange platform in relation to a Wind 8 drone first purchased in 2018. This drone has become redundant and can no longer be used. Following consultation with Police Scotland's Legal and Procurement teams, the supplier has agreed to provide a M300 platform instead. This would account for one of the four required at 2.10 above.

2.13 Given current demand for drone support across Local Policing, it has been assessed that the most suitable locations to hold the four complete M300 systems are Aberdeen, Inverness and two at Glasgow.

2.14 The additional drone at Glasgow will assist with ongoing research, training and development and provide additional resilience to support local policing, minimising disruption to service when one of the other platforms requires to be serviced.

### 2.15 **Benefits**

2.16 There are a number of significant benefits to highlight. The M300 provides better performance, increased flight time and has the ability to fly in rain. This will undoubtedly improve operational capability and better meet required demand. The M300 is more technologically advanced than the M210 which will benefit our current collaboration work with partners to explore innovation in terms of drone development and sensor technology for missing person investigations.

### 2.17 **Risks**

2.18 The current fleet of drones requires to be replaced as soon as possible. Continued use of the current platforms beyond 2022 will present significant risk as they will no longer be supported by the manufacturer rendering them obsolete, resulting in reduction in

operational capability and the associated reputational risk to Police Scotland e.g. unable to deploy drones to missing person searches and support to other types of policing incidents such as firearms, public order, etc.

2.19 The Air Support Unit will continue to monitor drone development as the technology evolves. This will also be incorporated in to the Air Support Strategy going forward.

## 2.20 **Engagement**

2.21 Following agreement with SPA and Scottish Justice Committee in 2020, Police Scotland will continue to engage with the SPA on any significant changes or enhancements of the technology.

## 2.22 **Next Steps**

2.23 A procurement process will commence shortly with an anticipated delivery of the new drone model, M300, in May 2022.

2.24 The drone Code of Practice, EqHRIA and DPIA will be updated accordingly to reflect the additional drone capacity and newer version.

2.25 A communications strategy has been prepared in relation to the replacement of the fleet.

2.26 Beyond 2022 the 3 x M210 will become obsolete and will no longer be supported by the manufacturer. In the interim period these will be utilised for operational resilience, training and to support some research work. Additional batteries have been purchased to ensure this model remains operational until delivery of the M300.

## **3. FINANCIAL IMPLICATIONS**

3.1 A capital bid for 2022/23 has been submitted to fund the purchase of replacement M300 platforms. The life expectancy of the M300 is 5 years, however this may vary depending on the manufacturer and their development.

## **4. PERSONNEL IMPLICATIONS**

4.1 There are no personnel implications associated with this paper.

**5. LEGAL IMPLICATIONS**

5.1 There are no legal implications associated with this paper.

**6. REPUTATIONAL IMPLICATIONS**

6.1 Police Scotland requires to replace the current fleet of RPAS. By not doing so, the M210 could suffer performance issues leaving Police Scotland unable to deliver a specialist service to local policing.

**7. SOCIAL IMPLICATIONS**

7.1 There are no social implications.

**8. COMMUNITY IMPACT**

8.1 There is no community impact.

**9. EQUALITIES IMPLICATIONS**

9.1 There are no equalities implications.

**10. ENVIRONMENT IMPLICATIONS**

10.1 The continued increase in use of Police drones at incidents/events, as an alternative to the Police helicopter where appropriate, will support the Police Scotland Environmental Strategy and help reduce the organisations carbon footprint.

**RECOMMENDATIONS**

Members are invited to discuss the contents of this paper.