**Statement of Requirement**

**The Provision of a Bird Detection System to reduce Risk to Life due to Bird Collision**

Ref Requirement

**A General Requirements**

**A.1 Scope of Requirement**

A.1.a The Scope of this Contract is to provide a capability to RAF Lossiemouth to mitigate the risk to life (RtL) caused by the collision with migratory and non-migratory birds in the locality of the airfield. This capability will also reduce the risk of damage to aircraft, the costs therefore incurred and the loss of capability due to additional maintenance or repair. This capability should be provided through a Bird Detection System that will give timely indication of bird activity allowing appropriate avoidance or disruption activities. The capability should attain a standard of performance compatible with the results of Trial WINCHELL[[1]](#footnote-1).

A.1.b This contract is to commence from April 2022 for a period of 5 years.

**A.2 Definitions**

A.2.a In addition to the definitions in the Terms and Conditions of the Contract the following definitions shall also apply. Where the definitions below contrast to those detailed in the Terms and Conditions of the Contract, then the definitions within the Terms and Conditions of the Contract shall take precedence.

Definition Interpretation

 Contractor’s Personal Any use of MOD furnished property, facilities or equipment intended for the primary benefit Use of the Contractor or the Contactor’s Personnel which is contrary to the MOD’s interests is considered personal use.

 Contractor’s Personnel Any employees, including sub-contractors or other agents working on behalf of the Contractor, shall be deemed the Contractor’s Personnel.

 Designated Officer The Designated Officer is the MOD representative responsible for the Requirement and is as defined at Box 2 of DEFFORM 111of this Contract.

**A.3 Abbreviations and Acronyms**

A.3.a In addition to the abbreviations and acronyms detailed in the Terms and Conditions of the Contract, the following abbreviations and acronyms will be used.

 Abbreviation or Interpretation

 Acronym

 AOC Air Officer Commanding

 BCU Bird Control Unit

 BDS Bird Detection System

 DO Designated Officer

 FOD Foreign Object Damage

 LOS RAF Lossiemouth

 MOD Ministry of Defence

 NAVAIDS Navigational Aids

RtL Risk to Life

 TUSBAT The User Shall Be Able To

**A.4 References**

A.4.a In addition to the references detailed in the Terms and Conditions of the Contract, the following references shall also apply as well as any subsequent revisions and amendments to the references. This list does not absolve the Contractor from conforming to any other relevant publications.

 Reference Version Source

 Government Security Classifications 1.0 <https://www.gov.uk/government/publications/government-security-classifications>

**A.5** **Site**

A.5.a This capability is for use at RAF Lossiemouth, Elgin, Moray, IV31 6SD. Access to the site by the Contractor, sub-contractors or other agents, will be arranged by the DO.

**A.6** **Security**

A.6.a The Contractor is to ensure that all the Contractor’s Personnel who require access to the site have at least a Baseline Personnel Security Standard clearance. Contractor’s Personnel that are not in possession of a Baseline Personnel Security Standard clearance will not be allowed to access MOD facilities.

A.6.b All information related to, or generated by this Contract, is to be treated in the appropriate manner in accordance with Government Security Classifications. The classification of the material to be handled shall not exceed OFFICIAL SENSITIVE in nature.

A.6.c All personnel data processed under this Contract is to be treated in accordance with the Data Protection Act 2018.

**A.7** **Hours of Operation**

A.7.a Access to the live direct output from the system should be available to BCU Operators 24/7 except where a mutual agreement exists for servicing or maintenance of the system.

A.7.b Access to the live, online output should be available to LOS Operators via the internet/intranet, 24/7 except where a mutual agreement exists for servicing or maintenance of the system.

A.7.c In cases of fault or breakdown, the Contractor should be available to attend and rectify within 24 hours. Where the system requires to be taken off-line for an extended period, the Contractor should make provision for a replacement unit to be provided.[[2]](#footnote-2)

**A.8** **Contract Monitoring**

A.8.a For the purposes of contract monitoring, representatives of the Contractor will routine monthly reports to the Designated Officer on the performance of the Contract. This should include availability (as a %), serviceability (as a %) and downtime (as a list).

A.8.b The Contractor is responsible for the performance of the Contract by any sub-contractors or other agents working on the behalf of the Contractor. The Contractor is to deal with any issues relating to any sub-contractors or other agents working on behalf of the Contractor, this however does not exclude sub-contractors or other agents working on the Contract from attending any Contract Monitoring meeting or contributing to any report where appropriate for such sub-contractors or other agents to do so.

A.8.c If any sub-contractor or other agents working on behalf of the Contractor are found unsuitable, for whatever reason, the Contractor is to engage with the relevant sub-contractor or other agents to broker a resolution.

**B** **Deliverable Requirements**

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| **Ref** | **Requirement** | **Additional Information** | **Standard of Performance** |
| B.1 | The User shall be able to (TUSBAT) detect, classify and track bird activity in the vicinity of LOS. | Detection CapabilityHigh ResolutionCone of SilenceClassification | - Medium targets (Standard Avian Target) to be detected up to **8 km/ 5 miles** (radius).- Large targets to be detected up to **10 km / 6.25 miles**.- Up to a height of **700m / 2,333 ft** .- Radar is to provide **360-degree** coverage.- to be able to provide detailed imaging of individual bird tracks displaying longitude, latitude and elevation details up to **10 Km** distance 6.25 miles.-the BDS should have a small (no larger than 30 degrees) cone of silence to maximise detection probability.- the BDS should be able to detect and classify contacts into: - Flocks - Individual birds - Aircraft - Ground Vehicles |
| B.2 | TUSBAT receive a live Bird picture digitally for Bird Control Operators working at LOS. | HardwareSoftware | - BCU Operators should be able to digitally receive the live bird picture on a tablet device (provided as part of the contract) in a format that can be sent / received and used on MODNet without further data manipulation.- Software should enable BCU Operators to configure the bird picture to meet user preferences and requirements.- Software should be able to record data and have a playback facility.- Digital picture should be available 24/7. |

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| **Ref** | **Requirement** | **Additional Information** | **Standard of Performance** |
| B.3 | TUSBAT receive a live Bird picture for LOS Operators via Internet/Intranet. | HardwareSoftware | - LOS Operators should be able to receive a live bird picture on user laptops and desktop PCs via the Internet/Intranet. The contractor should enable access to the system by specific user accounts and passwords to enable access. - Software should enable LOS Operators to configure the bird picture to meet user preferences and requirements.- Software should be able to record data and have a playback facility. - Digital bird picture should be available 24/7, via a mobile viewer application provided by the contractor and appropriate to the system.. |
| B.4 | TUSBAT record and analyse bird activity within the LOS area of interest. | DatabaseAnalysisData OutputAccess | - Connection to an application that processes the bird picture derived activity into a database.- Software should provide detailed information and analysis on LOS bird activity over specific geographical locations and time periods.- Software should be able to produce configurable spreadsheets, graphs and pictorial products to display user requests.- Application should be accessible via the Internet/Intranet. |

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| **Ref** | **Requirement** | **Additional Information** | **Standard of Performance** |
| B.5 | The BDS must be able to operate alongside LOS NAVAIDS and aircraft systems. | NAVAIDS and Aircraft SystemsFrequencies | - The BDS must not cause adverse interference on LOS NAVAIDS or aircraft systems.- The BDS must operate within an approved frequency range. Cleared with OFCOM and the Joint Spectrum Agency. |
| B.6 | The BDS must be able to operate from the existing BDS site. | LocationInfrastructure | - A comprehensive siting board was held prior to Trial WINCHELL and a site was selected to enable the optimum coverage whilst not impacting on airfield NAVAIDS or aircraft systems. This BDS must be able to operate from the same location (574219.16N 0032043.76W(Easting) 319916.745 (Northing) 869188.47)- The BDS must be able to utilise the existing hard-standing, power and IT connectivity on-site. (Concrete slab 7x7m (150mm sub-base, 200mm thick 40N concrete including 1-layer A393 mesh.240v mains power supply for Power Breakout Box and (single mode) fibre for connection for computer servers for onward access through internet and or 4G for data picture.)  |
| B.7 | The BDS must be supplied with an environmentally controlled shelter to house servers, power and IT connections. | Power and IT ConnectivityServer Racks | - There will be no additional power or IT connectivity provided for the BDS.- The BDS must provide its own accommodation for server racks within the footprint of the location (a concrete slab 7x7m). |
| B.8 | The BDS must be able to operate 24/7, 52 weeks of the year in all weather conditions (excepting extremely high winds). | Weather | - The BDS must be able to operate in all weather conditions (up to wind speeds of 17.1 m/s or 33 knots).- The BDS must be able to automatically shut –down to protect itself from high winds.- The BDS must be able to be remotely monitored and controlled by the Contractor. |

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| **Ref** | **Requirement** | **Additional Information** | **Standard of Performance** |
| B.9 | The BDS must be maintained and serviced by the Contractor. | MaintenanceSystem Downtime | - The Contractor shall maintain and service the BDS. As a standalone system, it will require frequency clearance to operate at LOS. This will be provided by Joint Spectrum Agency and must be obtained by the contractor.- System down-time must be mutually agreed between the User and the Contractor. |
| B.10 | The User shall be provided with acceptable training and support. | Training | - The Contractor shall provide training for personnel to operate the system. (Initial end user training is required to understand the detection system itself as well as what data is provided and how to interpret it. Additional training should be provided if there are significant changes or upgrades to the systems. - The Contractor shall provide operating information and support to the operators. |
| B.11 | The BDS will control access to the data it generates. | IT Security | - The system must be capable of controlling access to data generated by the BDS ensuring only approved operators or systems have that access. Encryption/password protection to an approved security standard. |
| B.12 | The BDS system will comply with all extant Environment Protection standards in place at LOS. | Environmental Protection  | - Certification of Environmental Protection standards – Environmental Authorisations (Scotland) Regulations 2016.- Compliance with Directive (2011/65/EU) or UK equivalent - Hazardous Substances in Electrical/Electronic Equipment. |
| B.13 | Growth. The BDS should be capable of development of additional features and capability. | The system should, with further development, have sufficient growth potential to encompass evolving capabilities including but not limited to:- Drone Detection- Runway Incursion Detection- Airfield Vehicle Monitoring- FOD Detection | Demonstrate that the system does not preclude future development of additional features and capability. |

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| **Ref** | **Requirement** | **Additional Information** | **Standard of Performance** |
| B.14 | Disposal. The BDS shall be removed from the site and the end of Contract. | Disposal of the BDS at end of Contract. | - The Contractor shall be responsible for removing the BDS from the site at the termination of Contract. . |

1. Data collated during the trial (bird occurrences) will be provided. [↑](#footnote-ref-1)
2. RAF Lossiemouth is liable to receive operational taskings 24/7, BCU support (including this capability) to operations is also required 24/7. [↑](#footnote-ref-2)