



REQUEST FOR INFORMATION
Maritime DETECT for Uncrewed Aerial Vehicles (UAV)

Date: 15th Dec 2020

Version 1.0

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1. Confidentiality

No information included in your response, or in discussions connected to it, will be disclosed to any other party.

2. Introduction

This RFI is not a bidding opportunity but a means by which industry can provide information. Any resulting procurement activity will be conducted competitively.

3. Background

There is an enduring requirement to detect all classes of Uncrewed Aerial Vehicles within the dynamic maritime domain. The NATO classes are defined in Table 1.

NATO UAS Class	Category	Civil Category (UK CAA)	Normal Employment	Operating Altitude (AGL)	Mission Radius
Class 1 (<150 KG)	Micro (<2kg)	Weight Classification Group 1 (WCG) Small Unmanned Aircraft (<20kg)	Tact Platoon, Sect, Individual (Single operator)	To 200 ft	5km (LOS)
	Mini (2-20kg)	WCG 2 Light UAS (20-150kg)	Tact Sub-Unit (Manual Launch)	To 3000 ft	25km (LOS)
	Small (>20kg)	WCG 3 UAS (>150kg)	Tact Unit (employs launch systems)	To 5000 ft	50km (LOS)
Class 2 (150-600kg)	Tactical	WCG 3 UAS (>150kg)	Tactical Formation	To 10,000 ft	200km (LOS)
Class 3 (>600kg)	Medium Altitude Long Endurance (MALE)		Operational/Theatre	To 45,000 ft	Unlimited (BLOS)
	High Altitude Long Endurance (HALE)		Strategic/National	To 65,000 ft	
	Unmanned Combat Air Vehicle (UCAV)				

Table 1

Noting that some suppliers may have a full C-UAS maritime capability, the purpose of this RFI is to understand the DETECT element in more detail:

The authority wishes to understand how a DETECT solution could operate in the Maritime domain and the expected performance across each of the Warship classes against each class of UAV in Table 1.

Suppliers are invited to explain how a DETECT solution could subsequently be developed to work with a DEFEAT capability.

- Indication to Open interfaces, ability to interact with 3rd parties or a spiral development paths may be useful to describe potential routes to market.

The authority invites a brief overview of the technology being employed; highlighting passive and active detection elements and overviewing the approach employed to classify and report.

- For any active components of the systems, provision of frequencies bands for transmission would be useful.
- Where possible, describing the fidelity of the UAV classification function.
- How will or what considerations have been applied in the solution to address Mutual Interference in scenarios.

Suppliers are encouraged to describe if the DETECT reporting function and can offer differing levels of reporting fidelity: For example:

- uncoupled, standalone reporting of bearing of threat only,
through to;
- closely coupled with existing platform C2, with an ability to report classification, bearing, elevation and range.

If a supplier has a DTID (Detect Track and Identify) based solution, it is recognised that a DEFEAT capability may be inherent within the product design and an intrinsic part of DETECT system proposal. Suppliers are encouraged to engage with this RFI and articulate the performance and limitations, as above.

Suppliers are invited to describe their wider (existing or in development) C-UAS system, highlighting the functional architecture or logical systems diagram (if appropriate) or a description.

- The authority would gain benefit from understanding the approach (where possible or if appropriate) to open interface points and 3rd party connections.
- Suppliers are invited to highlight any critical interfaces, that if the authority released or developed, could decrease the integration challenge or increase the speed of delivery.

Suppliers are invited to describe the work function required to operate the solution or the level of AI/ML (Artificial Intelligence/Machine Learning) that could be employed to provided minimal user engagement.

Suppliers are invited to articulate the role they believe they would take in capability development, i.e. are you a prime with a product or products looking to take a leading integration function or a supplier looking to offer a niche capability not serviced by boarder systems.

The authority is keen to understand the scope and complexity of any physical installation of a solution.

Suppliers are encouraged to provide an overview to any USP within the solution which is above and beyond this RFI scope.

Suppliers are requested to comment to the timeframe required between contract award and a commencement of a Sea trial on a warship in a complex RF environment for a DETECT Proof of Concept.

This is very much an output-based requirement and any innovative suggestion that achieves the end result will be warmly received.

4. Purpose of the RFI

This RFI aims to achieve 4 outcomes:

- Align the MOD requirement with industry capability and processes for procurement of the required solution.
- Develop a procurement strategy that will deliver best value for money for Defence.
- Implement an enduring solution that allows the Authority to plan its activity against an assured continuity of service, whilst also supporting ad-hoc, unprogrammed surges in demand.
- To inform a Procurement Strategy that enables the implementation of an enduring solution.

5. RFI Procedure

Responses are requested to be no more than 8 pages. Returns to all the questions are not required, if either not appropriate to the solution being offered, or if the information is unknown.

Responses to this RFI will be reviewed by subject matter experts from different functional areas within Navy Command Headquarters.

Any details provided in response to this RFI will be used for information purposes only and will not be used to determine the potential Suppliers who will be invited to bid, should the Authority proceed to tender.

The results and analysis of this RFI shall not constitute any form of pre-qualification exercise.

Any formal procurement process will be undertaken in accordance with relevant Procurement Law.

Nothing in this RFI, or any other engagements with Industry prior to a formal procurement process, shall be construed as a representation as to the Authority's ultimate decision in relation to the future requirement.

6. How to deliver responses to this RFI

Suppliers are free to respond to this RFI in whatever format conveys the responses in a clear and concise manner; however, it is requested that responses relating to mapping product capabilities for UAV class detection vs product viability against each warship class is provided in table format.

All submissions are requested electronically to the e-mail address shown below no later than 12:00 12th Feb 2021.

Responses will be acknowledged electronically by return e-mail.

7. Contacts

For questions relating to this RFI, please contact:

Isabel King – Commercial Manager, Pre-Sourcing <mailto:isabel.king@107@mod.gov.uk>

Rosemary Wright – Senior Commercial Manager, Sourcing <mailto:rosemary.wright128@mod.gov.uk>