

RCloud Tasking Form – Part B: Statement of Requirement (SoR)

Title of Requirement	NT20-810: High speed and altitude electro optic seeker dome optimisation
Requisition No.	61180501
SoR Version	1.0

1.	Statement of Requirements
1.1	Summary and Background Information
	<p>The Missile Defence Centre (MDC) seeks to explore the PhD route to conduct low technology readiness level (TRL) work in to the optimisation of high speed and altitude electro optic seeker domes.</p> <p>Electro-optic sensors have the potential to play an important role in many classes of high-speed air platforms. However, the inclusion of electro-optic sensors on these high speed air platforms can act to limit their allowable flight envelope. The MDC, therefore, seeks to develop capabilities to broaden the allowable flight envelope of electro-optic sensors.</p> <p>This is a hugely complex and multidisciplinary problem that will be reduced to focus on the "aperture" for this PhD study, thus discounting pursuit of the full sensing functional chain or the sensor aspects of the problem. By reducing scope in this way, the breadth of the problem is reduced to be a mechanical engineering problem across materials, aerodynamics, structures.</p> <p>The primary focus of this PhD study will be to address the interactions between the external environment and the aperture, thus addressing the aerodynamic challenges. However, there is continued flexibility, as the study progresses, to consider other elements of the response of the aperture to the applied conditions in the materials, structures and design challenges.</p>
1.2	Requirement
	<p>The PhD study will involve a 3.5 year effort from the selected PhD candidate, supervised by Redacted from the University of Southampton. Redacted is a Professor of Aerospace Engineering with research interests spanning all areas of aerodynamics, including theoretical and computational fluid mechanics. Redacted has previously worked on a range of research work in this field from across industry and academia internationally and has a wealth of experience supporting students through to PhD completion. Redacted is thus well placed to support the successful candidate on this study.</p> <p>From the successful candidate, the outputs required are:</p> <ul style="list-style-type: none"> • Quarterly reporting – a progress report containing a summary of the work completed throughout the last quarter and planned work through the next quarter. • Annual Progress Presentations – to MDC and MBDA. • Final PhD Thesis – submission of final thesis for successful PhD award. • Viva Voce– successful defence of work completed for PhD award. • Final Presentation - to stakeholders from across MDC, MBDA, and wider MoD.

	<p>The PhD is fully-funded by the MDC. The successful candidate will receive an enhanced stipend, 20% above the UKRI rate (£15,609 for FY 21/22), of £18,731 per year. Course costs, training, materials and attendance at conferences are also to be covered by the MDC funding. The PhD is expected to start in September 2022, with completion in December 2025.</p> <p>This PhD is industry-linked through MBDA, as one of the MDC's Tier 1 partners. Support from MBDA is expected to include a joint supervision for the PhD candidate, as well as offering the candidate the opportunity to spend 12 weeks working on-site with MBDA integrated in to a relevant team. This support ensures that there will be adequate pull-through from the PhD research into industry and the continued development of relevant systems and technology. MBDA's involvement is to be confirmed by, and contracted through, the academic institution to which the the PhD study is awarded.</p> <p>The candidate for this PhD study must be a UK national and undergo a basic BPSS clearance to undertake this research work.</p>
1.3	Options or follow on work
	There are no direct options for follow on work from this study.
1.4	Contract Management Activities
	The Task shall be managed in accordance with the terms of R-Cloud v4 with assessment of progress reports and other key deliverables.
1.5	Health & Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement
	N/A

1.6	Deliverables & Intellectual Property Rights (IPR)					
Ref.	Title	Due by	Format	Expected classification (subject to change)	What information is required in the deliverable	IPR Condition
NT20-810_1	Progress Reporting	Quarterly	Report (.pdf or .docx)	Upto O	Summary of work completed in the previous quarter.	Default RCloud Agreement Terms and Conditions shall apply
NT20-810_2	Progress Presentations	Annually	Presentation	Upto O	Summary of work completed in the previous year, and direction for future research.	Default RCloud Agreement Terms and Conditions shall apply
NT20-810_3	Final Technical Report	T0 + 39months	PhD Thesis	Upto O	Submission of final thesis for PhD award.	Default RCloud Agreement Terms and Conditions shall apply
NT20-810_4	Viva Voce	T0 + 39months	Presentation	Upto O	Completion of Viva Voce examination for PhD award.	Default RCloud Agreement Terms and Conditions shall apply
NT20-810_5	Final Presentation	T0+40months	Presentation	Upto O	Final presentation to MDC, BAE, and other key stakeholders.	Default RCloud Agreement Terms and Conditions shall apply

1.7	Deliverable Acceptance Criteria
	<ul style="list-style-type: none"> ○ Interim or Progress Reports: The report should detail, document, and summarise the results of work done during the period covered and shall be in sufficient detail to comprehensively explain the results achieved; substantive performance; a description of current substantive performance and any problems encountered and/or which may exist along with proposed corrective action. An explanation of any difference between planned progress and actual progress, why the differences have occurred, and if behind planned progress what corrective steps are planned. ○ Final Reports: shall describe the entire work performed under the Contract in sufficient detail to explain comprehensively the work undertaken and results achieved including all relevant technical details of any hardware, software, process or system developed there under. The technical detail shall be sufficient to permit independent reproduction of any such process or system. The report shall be of a standard suitable to award the PhD. ○ All Reports included as Deliverables under the Contract e.g. Progress and/or Final Reports etc. must comply with the Defence Research Reports Specification (DRRS) which defines the requirements for the presentation, format and production of scientific and technical reports prepared for MoD. ○ All Reports shall be free from spelling and grammatical errors and shall be set out in accordance with the Statement of Requirement (1) above. <p>Failure to comply with the above may result in the Authority rejecting the deliverables and requesting re-work before final acceptance.</p>

2	Evaluation Criteria
2.1	Method Explanation
	Please provide a proposal that addresses all aspects of the SoR.
2.2	Technical Evaluation Criteria
	The supplier shall provide evidence to demonstrate that they can meet the full requirement as outlined in Section 1 of this Tasking Form Part B.
2.3	Commercial Evaluation Criteria
	The Contractor shall provide evidence to demonstrate that they can meet the following:

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| <ul style="list-style-type: none">• Compliance with the Task specific terms and conditions as stated within the Tasking Forms Part A and B. The Contractor shall provide a completed Tasking Form Part C confirming that an offer is made in accordance with R-Cloud Version 4 Terms and Conditions.• The supplier must provide completed Research Worker Forms for all individuals expected to undertake work on the Task, unless SC clearance or above is already held. A document is provided for completion where Research Workers do not already hold SC Clearance. If SC clearance is already held, the Contractor shall provide the individual's clearance details.• The Contractor must provide their full FIRM price breakdown for all costs to be incurred to fulfil this requirement, including: what rates are being used for what grade (using their respective agreed R-Cloud grades), quantity of manpower hours per grade, materials costs, facility costs, profit rate applied, any sub-contractor costs and the level of sub-contracting required, any other costs applicable to this requirement. The Authority will assess the proposal to ensure that all costs are fully detailed and in line with the R-Cloud rates, and that the price is commensurate with the work to be undertaken. <p>When placing any contract the Authority is required to satisfy itself that the agreed price represents Value for Money (VFM). The Authority reserves the right to not enter into any contract that is unacceptably priced or unaffordable.</p> |
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