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

Title of Requirement	**Investigation into Signature Reduction Strategies for Redacted under FOIA exemption (STA) Systems**
Requisition No.	**1000166503**
SoR Version	**1.0**

1.	**Statement of Requirements**
1.1	**Summary and Background Information**
	Redacted under FOIA exemption Dstl has been investigating concepts for reducing the optical signatures of current STA equipment for some time, Redacted under FOIA exemption. Some of the identified reduction measures have been shown to be effective but all generate a negative impact on the performance of the host device. Redacted under FOIA exemption
1.2	**Requirement**
	It is expected that the objective of this requirement will be most effectively met by performing a series of component tasks over the duration of the project. In broad brush terms it is envisioned that these tasks will need to be broken down along the following lines: **Task 1: Assessment of current STA vulnerability** The first task is to make an assessment, based on modelling or experimentation or both, of the susceptibility of current STA devices Redacted under FOIA exemption At least one representative system from each of the following categories will be chosen for this investigation : Redacted under FOIA exemption **Task 2: Generation of mitigation strategies/designs** Based on the findings from Task 1 a range of possible solutions to the problem of Redacted under FOIA exemption for each of the categories provided above shall be described in detail. These can range from the insertion of appropriate Redacted under FOIA exemptionto complete system re-designs as appropriate. The goal in each case should be the identification of solutions which: • Redacted under FOIA exemption • Have minimal/no impact on the primary performance of the host system;

- Result in minimal increases in size, weight and power characteristics.

Proposed solutions that are integral to the optical design are being sought Redacted under FOIA exemption to investigate how carefully 'designed-in' measures could provide greater benefit. The principle operating principles of any candidate solution should be clearly identified.

Task 3: The down-selection and evaluation of signature-reduction strategies

Candidate solutions identified in Task 2 should be evaluated using a combination of modelling and hardware-based concept demonstrations (the latter do not need to be based on elaborate optical constructions as the simple integration of components should be sufficient to show potential effectiveness).

During this evaluation process it is expected that some of the identified solutions from Task 2 will be discounted as a result of performance and/or fabrication considerations. However, a minimum of two out of the candidate strategies identified in Task 2 for each of the three generic system categories (as defined under Task 1) would be expected to progress beyond the down-selection process,. (Note: some strategies may have common working principles for different system categories.)

A consideration of potential mitigation options for Redacted under FOIA exemption systems, via a modelling approach, would be welcomed (desirable).

Task 4: Demonstration of Signature-Reduction Strategies

Each of the candidate strategies/solutions that survive the down-selection process carried out under Task 3 should be progressed into demonstrators. Ideally this would be in the form of a nominally working hardware representation of each generic STA system (additive manufacturing techniques rather than machined metal components would be perfectly acceptable if appropriate for example) but clear and detailed optically modelled representations would be accepted in some cases.

The output should be a minimum of six tailored effective and realisable strategies which have the potential for reducing the signatures/Redacted under FOIA exemption of Redacted under FOIA exemption STA devices based on the principle of designing in signature reduction concepts during the early design stages.

Your proposal shall include details of:

1. The underpinning science and engineering activities you will carry out to deliver the demonstrations. Details shall also be provided on the possible performance parameters;

2. A project plan, including risks and their mitigations; dependencies; critical paths; and decision points; and

3. The identification of additional entities (if appropriate) that you will bring in to deliver the most innovative elements of your solutions.

The anticipated start date is September 2021. The end date shall be the 31st March 2022.

1.3	**Options or follow on work** *(if none, write 'Not applicable')*
	Not Applicable
1.4	
	Quality Control and Quality Assurance processes and standards that must be met by the contractor: **ISO 9001 & TickITPlus**
1.5	**Health & Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement**
	None specified

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**
D1	Monthly progress report.	Starting from T0 (contract award) and subsequently throughout duration of contract	1-page quad chart. (.pptx)	OS	As per quad chart provided by Dstl.	RCloud Agreement Terms and Conditions shall apply Full Rights Versions Required
D2	Presentation of progress at quarterly progress reviews (QPR) throughout contract.	Dates for QPRs to be mutually agreed.	Present ation (.pptx)	OS	A detailed update on work completed including, but not limited to, progress and learning to date; issues encountered and how they have been/will be resolved and alignment with project plan.	RCloud Agreement Terms and Conditions shall apply Full Rights Versions Required
D3	End of project technical report	No later than 28/3/22.	MS Word	OS	The report(s) shall detail the technical work completed; the knowledge and know-how gained and conclusions of work conducted.	RCloud Agreement Terms and Conditions shall apply Full Rights Versions Required
D4	End of project demonstration	No later than 28/3/22.	n/a	OS	To be mutually agreed, but as a minimum a demonstration of the performance attributes of two candidate solutions per generic STA system to TRL 5/6	RCloud Agreement Terms and Conditions shall apply Full Rights Versions Required

1.7	**Deliverable Acceptance Criteria**
	As per R-Cloud Framework T&Cs 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. 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. Any 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. Demonstrations will take place either at the Contractor's premises, or at a location to be mutually agreed.

2	**Evaluation Criteria**
2.1	Method Explanation
	Mandatory Criteria (Pass/Fail) and overall affordability/acceptance to the Authority. The Authority will consider the Contractors proposal relating to the Technical Evaluation Criteria below and Commercial response including the Firm Price submitted and will discuss any points thereafter as may be necessary
2.2	Technical Evaluation Criteria
	Criteria 1 – The Contractor's proposal addresses all of the Authority requirements set out in this Task/Statement of Requirement, to the satisfaction of the Authority and demonstrates both a deep knowledge and a broad experience of designing optical systems for STA applications. Criteria 2 - The Contractor's proposal clearly describes **Redacted under FOIA exemption** Criteria 3 - The Contractor's proposal **Redacted under FOIA exemption** Criteria 4 - The Contractor's proposal demonstrates the ability to generate candidate concepts and evaluate their performance prior to down-selection. Criteria 5 - The Contractor's proposal contains a plan to physically demonstrate one or more of the signature reduction strategies/solutions per STA category in a representative system configuration.

2.3	Commercial Evaluation Criteria

The commercial evaluation shall assess the proposal on the following questions:

Serial	Question	Marking
1	The Contactor's proposal falls within the maximum budget of £75K	Pass/Fail
2	The Contractor's proposal has been submitted against a Firm Price, and within the allowable rates detailed on the RCloud rate card.	Pass/Fail
3	One full technical proposal, excluding all price detail has been submitted	Pass/Fail
4	One full Technical and Commercial proposal, including all price detail, has been submitted	Pass/Fail
5	A completed RCloud Part C Task Response Form has been completed and submitted	Pass/Fail
6	A completed Supplier Assurance Questionnaire (SAQ) has been submitted against the specified Cyber Risk Profile.	Pass/Fail
7	Completed Research Worker Forms (PPRW) have been submitted where appropriate or details of existing security cleared research workers identified	Pass/Fail