Serapis Tasking Form

Tasking Form Part 1:

To:	Lot 1 Roke Manor Research Ltd Lot 1 Roke Manor Research Ltd	**From:**	The Authority
Any Task placed as a result of your quotation will be subject to the Terms and Conditions of Framework Agreement Number: LOT 1 DSTL/AGR/SERAPIS/COL/01			
VERSION CONTROL			
1.0 – 07 October 2022 – Initial Issue 2.0 07 December 2022 – Update to the deliverable due dates to reflect the possibility of the Serapis framework closing in July 2025			
REQUIREMENT			
Proposal Required by:	24/11/2022	**Task ID Number:**	C80
The Authority Project Manager:	[REDACTED]	**The Authority Technical Point of Contact:**	[REDACTED]
Task Title:	Development of Novel Techniques for Assured Radar Performance (ARP)		
Required Start Date:	03/01/2023	**Required End Date:**	31/03/2026 or 10/06/2025[1]
Requisition No:	RQ0000014239	**Budget Range**	Ph1: £125k-150k Ph2a (FY23/24): £250k-£300k core plus up to £100k of costed options Ph2b (FY24/25): £250k-£300k core plus up to £100k of costed options Ph2c (FY25/26): £250k-£300k core plus up to £100k of costed options
TASK DESCRIPTION AND SPECIFICATION			
Serapis Framework Lot	☒ Lot 1: Collect ☐ Lot 2: Space systems ☐ Lot 3: Decide ☐ Lot 4: Assured information infrastructure		

[1] Earlier contract end date required in the event of the Serapis framework closing in July 2025.

	☐ Lot 5: Synthetic environment and simulation ☐ Lot 6: Understand

Statement of Requirements (SOR)

Background & Summary

The Authority's Radar Sensing (RAS) project runs from 01 April 2022 to 31 March 2027. It conducts low technology readiness level (TRL) research into revolutionary, Generation-After Next (GAN) concepts, technologies and techniques that have the potential to significantly improve situational awareness and targeting from a number of different platforms in the future congested and constrained/contested environment. Being able to protect an RF sensor from interference (both un-intentional and intentional) is an essential critical capability that is increasing in priority with compounded RF congestion, wide-band RF systems and novel RF jamming techniques. The Assured Radar Performance (ARP) work package (WP) of the RAS project will take a whole-systems approach to developing a set of architectures, tools and techniques to avoid or mitigate the effects of RF interference sources. It will also seek to understand the performance trades between improving robustness and maintaining detection performance when applying such electronic protection measures (EPMs).

[REDACTED]The contract will adopt some elements of the Agile approach by fixing time, cost and quality, but negotiating solutions. Techniques will be identified, prioritised, developed, tested and delivered incrementally throughout.

[REDACTED]

[REDACTED]

The Contractor will adopt the following RAS project principles:

- **Be agile**
  Foster an agile and inclusive approach to delivery where the project is not overly pressured or constrained by detailed, long-term aspirations and plans. Instead, the project should work flexibly to achieve at least the 'Minimum Usable SubseT' (MUST) of requirements (the 'Must Haves' that are essential and the project guarantees to deliver as a worst case scenario) from a Prioritised Requirements & Solutions List (PRaSL) that is continuously reviewed and refined, and iteratively addressed. This is enabled by the project team:
    - maintaining a focus on the users' requirements;
    - employing strong technical leaders;
    - maintaining stable project teams;
    - and adopting a culture of team working, empowerment and transparency.
- **Never compromise quality**
  Methodically plan and implement the approach to development of software/models and hardware from the start. Ensure that solutions are supported by a clear understanding of the underpinning fundamental science, and are tested and

independently reviewed throughout[2]. Arrange regular reviews of the project technical design and approach to ensure they remain appropriate.

- **Take risks**
  Maintain a culture of creativity and continuous experimentation, without fear of failure, which drives high-risk high-reward innovative S&T and uses decision gates to stop investment in activities that are not going to deliver the desired outcome.
- **Collaborate**
  Be collaborative by design through seeking opportunities for co-creation, joint working and capability development with others from the start.
- **Consider future exploitation in solution design and throughout project delivery**
  Adopt wherever possible open design, architectures and standards, and develop solutions with a systems-of-systems approach (SOSA)[3] to ensure maximum interoperability and exploitation. [REDACTED] Support the Authority in taking responsibility for 'technology push' and securing funding for further development (leading to exploitation) of driving GAN S&T research.
- **Manage interdependencies**
  Minimise duplication of effort and MOD spend by exploiting capabilities developed under other projects and vice versa.

The task will comprise two phases with a contract breakpoint in between:

- At the start of the contract, Phase1 shall be offered on a firm price basis, together with a maximum limit of liability (LoL) cost for Phase 2 .

- At the end of Phase 1, the proposal for Phases 2a, 2b and 2c will be revalidated on a firm price basis (or ascertained cost if considered more appropriate) with:

    - a core package of work offered for up to £900k (£300k per FY/Phase)

    - and additional costed options with a value of up to £300k (£100k per FY/Phase).

The costed options may cover supplementary work on higher-priority solutions, development of lower-priority solutions and/or development of new solutions identified as the project evolves – this shall be agreed with the Authority in Phase 1.

Phases 2a, 2b and 2c will be awarded at the beginning of each FY following receipt of a Dstl-approved PRaSL and contract amendment form.

The project will be conducted in an Agile iterative fashion with an initial agreement of the PRaSL in Phase 1, followed by a series of six-monthly 'Increments' in Phase 2 (these may be shortened or lengthened if deemed appropriate). These Increments will be divided into shorter (e.g. month-long) 'Timeboxes' where evolutionary development of the techniques will take place.

Phase 1 – Scoping (3-5 months) – Firm Price

[2] Peer review by a subject-matter expert (SME) will ensure the approach, conduct and reporting are appropriate and accurate. Independent review by a member of the Contractor's organisation who has not been directly involved in the study (and is not necessarily an SME) will provide impartial challenge. The Authority's TP(s) will review outputs to ensure they meet the requirements of the contract.

[3] [REDACTED]

At the beginning of the project, the Contractor will meet with the Authority to agree the detailed requirements and scope of the contract through the initial issue of the PRaSL database/spreadsheet containing:

[REDACTED]

Once the PRaSL has been agreed and the MUST is understood by all parties, the Contractor will provide a firm price proposal for Phase 2 of the contract that revalidates the requirements, scope and cost of Phase 2. This will describe a scenario in which all of the solutions (Must, Should and Could Haves) can be delivered within the constraints of the agreed timescales and costs. The Must Haves will be essential and therefore non-negotiable regardless of any issues that occur. Any risks that may prevent the Should or Could Haves from being delivered shall be identified with a post-mitigation probability and impact. Costed options may cover supplementary work on higher-priority solutions (e.g. to raise the TRL), development of lower-priority (Won't Have) solutions and/or development of new solutions identified as the project evolves – this shall be agreed with the Authority during Phase 1.

The proposal shall suggest the best approach for delivery of Phase 2 through the following supplementary documents as a minimum:

- a copy of the initial issue of the PRaSL, with confirmation of the total financial split for Musts and Shoulds/Coulds (expected to be approximately 60 and 20/20);
- a description of the approach to technique development and quality assurance, to include a Systems Engineering Management Plan (SEMP) plus any other design or planning documentation considered necessary following completion of the PRaSL. The SEMP shall be the overarching engineering document produced by the technical lead that is subservient to the Project Management Plan (PMP) (repetition should be kept to a minimum). The SEMP shall outline the engineering activities and engineering approach to the design and development of the system. The SEMP shall conform to, or include, as a minimum, the following:
    - applicable engineering activities, models, tools, techniques, customs, practices and standards used for the technique development, integration and test
    - risk & complexity
    - roles & responsibilities
    - the activities and methods to be applied to all technical risks, assumptions, dependencies, issues, and opportunities (RADIO)
    - approach to quality assurance/management & configuration/version control
    - approach to reviewing, testing, verification & validation activities (to include details of any unit testing, SoS testing and suggested User Acceptance Tests (UATs))
    - software/hardware artefacts/deliverables, e.g. system and subsystem design documents (functional, architectural, detailed, etc.), interface control documents, test plans and test results
    - software/hardware options with justification for the chosen route
    - software/hardware project lifecycle and any ongoing support
- a delivery plan, to include but not be constrained to:

    - high-level schedule of Increments and deliverables for the whole project and, at least for the first Increment, the Timeboxes that make up that Increment
    - forecast spend profile
    - initial list of assumptions and dependencies (including GFX) and impact of failure to complete
    - initial risk register with post-mitigation probability and impact
    - details of the project team
- a description of the approach to project management (PMP), to include but not be constrained to:
    - how the project and team will be structured and organised
    - how new ideas will be pulled into the project throughout
    - how stakeholders (e.g. the Authority and any sub-contractors) will be engaged
    - how risks, issues and dependencies will be managed and reported
    - how changes to the PRaSL and delivery plan will be managed and communicated
    - how progress will be demonstrated and communicated in a transparent way
    - how value for money will be demonstrated and reported (particularly when solution priorities in the PRaSL change)

Following acceptance of the firm price proposal by the Authority, the first Increment of Phase 2 will commence. Phase 2 will be awarded and accepted on the basis of delivery of:

- all of the Must Have, Should Have and Could Have solutions from the PRaSL…
- …or an equivalent value of work (as evidenced by the Contractor) on solutions with equivalent priorities (as decided by the Authority)
- ...with delivery of the Must Haves guaranteed as the bare minimum, plus the Should/Could Haves in a best-case scenario

Phase 2 – Technique Development (up to 36 months, split into sub-Phases if appropriate) – Firm Price with Costed Options

At the beginning of each Increment, the Contractor and Authority will agree the activities that will be worked on in that Increment. Management of activities within the monthly Timeboxes will be at the discretion of the Contractor.

At the end of each Timebox, the Contractor will use the PRaSL to present to the Authority on what has been achieved and provide any feedback that may influence future plans. The Contractor and Authority will then agree on any changes to the plan for the next Timebox.

At the end of each Increment, the Contractor will review and agree the PRaSL with the Authority, pulling in any changes as a result of continuation of new ideas generation from Phase 1. Any additional work associated with changes to the PRaSL shall be traded off against less important work, ideally with the balance of Must and Should/Could Haves remaining the same (demoting items to Won't Haves if necessary). Changes to the breadth (not depth and detail) of the solutions in the initial issue of the PRaSL will require clear communication of the impact and formal change control and re-planning with Authority approval (contract amendment will be required if this results in a change to the cost or delivery timescales). A high-level Increment report will provide a formal record of the

activities progressed under the last Increment and activities planned for the next Increment, summarising the PRaSL. It will also highlight the following as measures of success for the previous period:

- New ideas that have been generated internally and through literature searches and/or engagement with other parties;
- Opportunities for exploitation (funding for further development) that have been identified and progressed.

Once a technique has reached TRL4 (or earlier if agreed with the Authority), the following technical outputs shall be delivered to the Authority for UAT:

- Technical report detailing the technique and any algorithms, [REDACTED]
- Verified software and/or hardware with supporting documentation/code commenting (to cover at least the design/architecture, build instructions, V&V log, user guide, technical guide, release note);
- Training session for the delivered software/hardware;
- UAT script.

[REDACTED]

The contract will be worked on in close consultation with the Authority's Technical Partner (TP) with monthly in-person two-way technical briefings/workshops at alternate sites (in addition to the standard project-management meetings) and virtual [REDACTED]technical catchups held every 2 weeks. This will allow the project to be collaborative, focusing all parties' efforts on the most productive areas, making the result as useful as possible and providing both the Authority and the Contractor with the knowledge and skills they need to exploit the techniques. This collaborative approach may also include short secondments (averaging 1-2 days per month) at the supplier's or Authority's premises to the benefit of both parties; this could coincide with the technical catchups and be at various stages of the project. It will also require a large amount of information exchange and therefore detailed recording and management of IP ownership and GFX. Part of the collaboration may also involve collaboration/joint working on software/hardware being developed. This could for example involve incremental software delivery or access to prototype software during secondments to allow for feedback throughout the software development process.

Security

[REDACTED]

Health and Safety

The Contractor will provide a named point of contact to coordinate safe working for the Dstl scientists when at the Contractor's site. Dstl staff will be provided with all relevant risk assessments (for COVID, lab work, etc.) with mitigating actions included for review at least 2 weeks prior to their initial visit.

Proposal

The Contractor's proposal shall provide the following details:

- the relevant qualifications and experience of the project team and organisation in development of radar EPM techniques (ESSENTIAL);

- credible ideas for new novel EPM approaches, with the following detail provided (for inclusion within the PRaSL in Phase 1) (ESSENTIAL):
- [REDACTED]
- awareness of current and future threats (HIGHLY DESIRABLE);
- relevant qualifications and experience of the project team and organisation in delivery of Agile software development projects (HIGHLY DESIRABLE);
- a credible approach to collaboration with the Authority and Agile (flexible) delivery (suggested improvements/embelishments to the approach detailed in this requirement are welcome) (HIGHLY DESIRABLE);
- an inclusive approach to new ideas generation and development, e.g. through collaboration with other suppliers (academic or otherwise) (HIGHLY DESIRABLE);
- a credible approach to quality assurance (HIGHLY DESIRABLE);
- tools and facilities of the organisation that would benefit the project including any applicable lab facilities (DESIRABLE);
- clear communication of the procurements (if any) that would need to be made and any risks relating to component lead times impacting the project schedule (DESIRABLE).

Procurement Strategy

☒ Lot Lead to recommend ☐Single Source / Direct Award

Pricing:

☒ Firm Pricing ☐ Ascertained Costs* ☐ Other*

Firm Pricing shall be in accordance with DEFCON 127 and DEFCON 643

Ascertained Costs shall be in accordance with DEFCON 653 or DEFCON 802.

*only at Authority's discretion

Task IP Conditions

Task IP Conditions (Follow the NIPPY guide to identify your information and IP requirements for each deliverable)	**Summary of the Authority's rights in foreground IP (IP generated by the supplier in performance of the contract)**
DEFCON 703 ☒	Vests ownership with the Authority Any continued development by the Authority or Contractor of techniques originated/owned by the Authority. Any continued development by the Authority of techniques originated/owned by other parties.
DEFCON 705 Full Rights ☒	Enables MOD to share in confidence as GFI or IRC under certain types of agreements. Can be shared in confidence within UK Government.

	Any continued development by the Contractor of techniques originated/owned by other parties or development of new techniques identified by the Contractor – any background IP that is likely to be used shall be declared prior to contract award
OTHER IP DEFCONS: 14* ☐, 15* ☐, 16* ☐, 90* ☐, 91* ☐, 126* ☐	Generally only suitable for deliverables at TRL 6 and above.
BESPOKE IP Clause ☐ *	Details to be added and agreed by IP Group
* Do not use without IPG advice and approval	
Please state in this text box if MOD or the customer has a requirement a) that one or more Other Government Departments is able to share confidentially with their own suppliers, b) to publish but you do not think there is a requirement to own or control the deliverable, or c) to share under a procurement Memorandum of Understanding (MOU).* *If any of these three issues applies, please contact IPG for advice before completing this form. *Listing research MOUs is not required, but can be a helpful courtesy to the supplier.* *[REDACTED]*	

DELIVERABLES

[REDACTED]

Other deliverables may be introduced by mutual agreement from all parties.

Confirmation of background IP included shall be provided on the front page of all documentation delivered. Full Rights Versions and Limited Rights Versions shall be provided for any 705 deliverables that include background IP with both versions being fully comprehensible in isolation from each other.

DELIVERABLE: ACCEPTANCE / REJECTION CRITERIA

Unless otherwise stated below, Standard Deliverable Acceptance / Rejection applies. This is 30 business days, in accordance with DEFCON 524 Rejection, and DEFCON 525 Acceptance.

Standard Deliverable Acceptance / Rejection:-

Yes ☒ (DEFCON 524 Rejection, and DEFCON 525 Acceptance)

No ☐ (if no, please state details of applicable criteria below)

Deliverable Acceptance / Rejection Criteria:-

The Authority will conduct UATs on all software and hardware received, as proposed by the Contractor.

Government Furnished Assets (GFA)

ISSUE OF EQUIPMENT/RESOURCES/INFORMATION/FACILITIES (*if not applicable, delete table and insert "None" in this text box)*

[REDACTED]

QUALITY STANDARDS

☒ **ISO9001** (Quality Management Systems)

☐ **ISO14001** (Environment Management Systems)

☐ **ISO12207** (Systems and software engineering — software life cycle)

☐ **TickITPlus** (Integrated approach to software and IT development)

☐ **Other:** (Please specify in free text below)

SECURITY CLASSIFICATION OF THE WORK

[REDACTED]

TASK CYBER RISK ASSESSMENT. *(In accordance with* DEF STAN 05-138 *and the* Risk Assessment Workflow)

[REDACTED]

ADDITIONAL TERMS AND CONDITIONS APPLICABLE TO THIS CONTRACT

X.1 The Contractor shall, and shall procure that their Sub-contractors shall, notify the Authority in writing as soon as they become aware that:

a. the Contract Deliverables and/or Services contain any Russian/Belarussian products and/or services; or

b. that the Contractor or any part of the Contractor's supply chain is linked to entities who are constituted or organised under the law of Russia or Belarus, or under the control (full or partial) of a Russian/Belarusian person or entity. Please note that this does not include companies:

(1) registered in the UK or in a country with which the UK has a relevant international agreement providing reciprocal rights of access in the relevant field of public procurement; and/or

(2) which have significant business operations in the UK or in a country with which the UK has a relevant international agreement providing reciprocal rights of access in the relevant field of public procurement.

X.2 The Contractor shall, and shall procure that their Sub-contractors shall, include in such notification (or as soon as reasonably practicable following the notification) full details of the

Russian products, services and/or entities and shall provide all reasonable assistance to the Authority to understand the nature, scope and impact of any such products, services and/or entities on the provision of the Contract Deliverables and/or Services.

X.3 The Authority shall consider the notification and information provided by the Contractor and advise the Contractor in writing of any concerns the Authority may have and/or any action which the Authority will require the Contractor to take. The Contractor shall be required to submit a response to the concerns raised by the Authority, including any plans to mitigate those concerns, within 14 business days of receipt of the Authority's written concerns, for the Authority's consideration.

X.4 The Contractor shall include provisions equivalent to those set out in this clause in all relevant Sub-contracts.

Please ensure all completed forms are copied to DSTLSERAPIS@dstl.gov.uk when sending to the Lot Lead.

Tasking Form Part 2: *(To be completed by the Lot Lead)*

To: The Authority	From: The Lot Lead

Proposal Reference **QINETIQ/22/04008** **(attached)**

Delivery of the requirement:

The proposal shall include, but not be limited to:

- A full technical proposal that meets the individual activities that are detailed in Statement of Requirements (Part 1 to Tasking Form).
- Breakdown of individual Deliverables, with corresponding Intellectual Property rights applied.
- Breakdown of Interim Milestone Payments, with corresponding due dates.
- A work breakdown structure/project plan with key dates and deliverables identified.
- A list of required Government Furnished Assets from the Authority, including required delivery dates.
- A clear identification of Dependencies, Assumptions, Risks and Exclusions which underpin your Technical Proposal.
- Sub-Contractors Personnel Particulars Research Worker Form and security clearances (if applicable)

PRICE BREAKDOWN

You are to use the costs detailed in Item 2 Table I in the Schedule of Requirement and at Annex E Table 2 of the Serapis Framework Agreement. Please also provide a price breakdown which should include, but is not limited to: Lot Lead Rates, Sub-contractors costs and rates, travel and subsistence. In support of your Proposal you are requested to provide clear details of all Dependencies, Assumptions, Risks and Exclusions that underpin your price.

Offer of Contract: *(to be completed and signed by the Contractor's Commercial or Contract Manager)*

Total Proposal Price in £	£156,645.71	(ex VAT)

Start Date:	03.01.2023		**End Date:**	05.05.2023
Lot Leads Representative	Name	[REDACTED]		
	Tel	[REDACTED]		
	Email	[REDACTED]		
	Date	21/12/2022		
Position in Company	[REDACTED]			
Signature	[REDACTED]			

Core Work – Breakdown

[REDACTED] [REDACTED] [REDACTED]

Core Work – Milestone breakdown costs

Proposed Milestones Payments

Your TMS bid costs shall be included in milestone 1.

The final Milestone must reflect the actual cost of the deliverable, and be greater than 20% of the Task value, unless otherwise agreed with your Commercial POC

Please duplicate the template per milestone table format below as necessary, and rename milestone number accordingly.

[REDACTED]

Options – Summary [REDACTED]

Tasking Form Part 3:

To be completed by the Authority's Commercial Officer and copied to the Authority's Project Manager.

1. **Acceptance of Contract:**		
Authority's Commercial Officer	Name	[REDACTED]
	Tel	[REDACTED]
	Email	[REDACTED]
	Date	21/12/2022
Requisition Number		RQ0000014239
Contractor's Proposal Number		C80 - Development of Novel Techniques for Assured Radar Performance (ARP)
Purchase Order Number		DSTL0000011402
Signature		[REDACTED]
Please Note: Task authorisation to be issued by the Authority's Commercial Officer or Contract Manager. Any work carried out prior to authorisation is at the Contractor's own risk.		