Serapis Tasking Form

Tasking Form Part 1: *(to be completed by the Authority's Project Manager)*

To:	Lot 2 BAE Systems Applied Intelligence 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 2 DSTL/AGR/SERAPIS/SPA/01

VERSION CONTROL

Version 0.2

REQUIREMENT

Proposal Required by:	08/07/2022	**Task ID Number:**	S40
The Authority Project Manager:	**[REDACTED]**	**The Authority Technical Point of Contact:**	**[REDACTED]**
Task Title:	Phase 1: Deep Space Radar (DSR) Study and Demonstration Programme for Space Domain Awareness (SDA)		
Required Start Date:	01/09/2022	**Required End Date:**	30/09/2023
Requisition No:	**[REDACTED]**	**Budget Range**	£209,937.90

TASK DESCRIPTION AND SPECIFICATION

Serapis Framework Lot	☐ Lot 1: Collect ☒ Lot 2: Space systems ☐ Lot 3: Decide ☐ Lot 4: Assured information infrastructure ☐ Lot 5: Synthetic environment and simulation ☐ Lot 6: Understand

Statement of Requirements (SOR)

1. Summary

1.1. In order to support and enhance UK capability to identify, track and characterise satellites in deep space orbits (e.g. Geostationary Earth Orbit [GEO] and similar environments), Dstl requires a programme of work to study and develop an active ground based radar optimised for deep space.

1.2. This statement of work covers Phase 1 of a Technical Demonstrator Programme (TDP) for a UK Deep Space Radar (DSR) to work towards an Initial Operating Capability (IOC).

1.3. Dstl has identified the following packages of work as being required:

- Deliver a detailed analysis of UK requirements relevant to GEO SDA in the form of a System Requirements Document (SRD)
- Deliver a study into deep space radar concepts designed to meet the UK requirements identified by the above analysis (SRD).
- Deliver summary and conclusions for Phase 1 plus costed Options e.g. demonstration and de-risking of key techniques or capabilities (see WP3).

- Deliver full documentation pack and proposal for Phase 2.

2.1. The UK is moving towards an ever greater dependence on space-based capabilities e.g. to collect and transmit information for government, infrastructure, and public and commercial users.

2.2. The Geostationary Earth Orbit (GEO) is of particular importance since satellites in GEO remain in a relatively fixed position with respect to ground based observers.

2.3. GEO hosts a high density of both commercial and military communications satellites. In particular the UK's SKYNET constellation resides in GEO, providing UK MoD, NATO and allied governments with critical strategic and tactical communications

2.4. The UK recognises that the space environment is rapidly evolving, for instance Rendezvous and Proximity Operations (RPO) are becoming more commonplace. One example is the in-orbit docking of Northrop Grumman's MEV-2 with Intelsat 10-02 in April 2021 for life extension purposes. Active Debris Removal (ADR) is also being commercialised and a number of physical methods are being researched and trialled.

2.5. Many technologies that are being investigated for commercial use can also be used for military purposes. For instance **[REDACTED]** (see Ref. 1: "Defence Space Strategy: Operationalising the Space Domain", MoD, February 2022)

2.6. Ref. 1 recognises that Space Domain Awareness (SDA) is a prioritised capability. It also contains three strategic themes:-

2.6.1. "*Protect and Defence: Protect and defend our national interests in and through space by developing space capabilities to deliver effective military outcomes; identify and attribute threats to space systems; respond to hostile activities in a proportionate and coordinated manner. Monitoring and supporting manoeuvres and relocations in GEO and Rendezvous and Proximity Operations (RPO)*"

2.6.2. "*Enhance military operations. Integrate space into all relevant aspects of Defence business; deliver resilient assured space services crucial to military operations; enhance Multi-Domain Integration and architectures*."

2.6.3. "*Upskill and cohere. Produce clear space policies, plans and concepts; develop a skilled and sustainable space workforce; recruit, train and retain talented individuals*."

2.7. The DSR TDP aims to enhance the UK's capability to protect and defend its GEO HVAs, notably SKYNET, and to support both military and civil operations in GEO. It also aims to develop the skills needed in the UK to operate future DSR.

2.8. Key stakeholders include UK Space Command, UK Space Agency (UKSA) and Defence Intelligence (DI).

2.9. Concept of Employment (CONEMP), User Function Allocation (UFA) and User Requirements Document (URD) are however still evolving.

2.10. A 'Customer Friend' role is being sought to support Dstl and UK Space Command with this and other TDPs for SDA.

2.11. One of the roles of the 'Customer Friend' role shall be to liaise with stakeholders concerning CONEMP, UFA, URD and desired outcomes e.g. facilitating user workshops and the gathering of key user input.

2.12. Examples of draft Use Cases for DSR include the following. Note that these may change during the course of the contract:

2.12.1. Monitoring and supporting manoeuvres and relocations in GEO and Rendezvous and Proximity Operations (RPO).

2.12.2. Improved discovery of spacecraft in approach routes to GEO **[REDACTED].**

2.12.3. Establishing and maintaining identification, track and 'custody' of Resident Space Objects (RSOs) including mitigating issues such as 'cross-tagging' that can occur when tracking close-spaced objects.

2.12.4. Enhancing the characterisation of RSOs; e.g. establishing object functions and capabilities.

3.1. Overview

3.1.1. This Programme shall principally address the detection, tracking and characterisation of Resident Space Objects in the following orbit regimes by means of a radar concept optimised for deep space:

- Geostationary and Geosynchronous Earth orbits (GEO) and graveyard orbits, e.g. to protect the UK's Skynet constellation.
- Approach trajectories leading to GEO, or which transit close to GEO.

3.1.2. In addition to the orbital regimes listed in 3.1.1, the contractor shall also assess the requirements and consider the relevant trade-offs for monitoring satellites in other orbits e.g. those in Medium Earth Orbit (MEO), highly-elliptical orbits or those whose apogee may extend beyond GEO.

3.1.3. Minimum performance shall be a system capable of routinely detecting and tracking objects of **[REDACTED]**. However, assessments shall also be made of the effect on the system design **[REDACTED]**. These requirements shall be reviewed and agreed by Dstl and key stakeholders as facilitated by the Customer Friend.

3.1.4. The Programme is formed of 3 Work Packages :

- Work Package 1: System Requirements Analysis
- Work Package 2: System Concepts Study
- Work Package 3: Costed options: Demonstration and de-risking of key techniques or capabilities

3.2. Work Package 1 – System Requirements Analysis

3.2.1. Work Package 1 (WP1) concerns the analysis of the requirements for a Technical Demonstrator (TD) relating to UK Deep Space Radar (DSR). The latter is defined as an active ground based radar optimised for detecting and tracking objects in deep space.

3.2.2. Under WP1 the contractor shall perform a systems requirements analysis for the DSR TD and develop and deliver a Systems Requirements Document (SRD) for it.

3.2.3. Within the SRD the contractor shall develop a prioritised set of requirements and system attributes for the Technology Demonstrator. These shall be sufficient to inform and enable Work Package 2 (a Concepts Study) as an input.

3.2.4. **Customer Friend**. In developing the SRD the contractor shall liaise with Dstl and key UK stakeholders via a 'Customer Friend', subject to appropriate NDAs.

3.2.5. **GFI:** Dstl shall provide the following as Government Furnished Information (GFI) :-

- User Requirements Document (URD)

The GFI shall be used as a basis for developing the SRD. The contractor shall review and agree the understanding of the GFI with Dstl and key stakeholders. This shall be facilitated by the Customer Friend as necessary.

3.2.6. Top priority shall be given to UK requirements; although wider interests (e.g. those of UK allies) may also be considered under direction from Dstl and in conjunction with key stakeholders.

3.2.7. The contractor shall consider a series of Use Cases. These Use Cases shall include, but shall not be limited to the following. The Supplier shall confirm the Use Cases within their proposal.

3.2.7.1. Monitoring and supporting manoeuvres and relocations in GEO and Rendezvous and Proximity Operations (RPO). Manoeuvre assessment.

3.2.7.2. Improved discovery of spacecraft in approach routes to GEO **[REDACTED]**

3.2.7.3. Establishing and maintaining identification, track and 'custody' of Resident Space Objects (RSOs) including mitigating issues such as 'cross-tagging' that can occur when tracking close-spaced objects.

3.2.7.4. Enhancing the characterisation of RSOs; e.g. establishing object functions and capabilities.

3.2.7.5. Conjunction assessment
3.2.7.6. Cataloguing
3.2.7.7. Neighbourhood watch (e.g. monitoring the neighbourhood around HVAs)

3.2.8. The contractor shall recommend System Requirements, and tolerances shall be defined and agreed between the Supplier and Dstl.

3.2.9. The contractor shall consider the following factors but not be limited to:-

- Radar siting, to include assessment of single or multiple sites.
- Electromagnetic interference to the radar from the environment or vice versa.
- Orbit coverage (e.g. as limited by site location/environs)

3.2.10. The contractor shall consider the following factors but not be limited to:-

- Classes of satellite and other space objects
- Classes of orbital regime

3.2.11. The contractor shall consider the following factors but not be limited to:-

- Beamwidth and beam shaping including sidelobes
- Field of regard

3.2.12. The contractor shall consider the following factors but not be limited to:-

- Dimension, configurations and materials of targets (e.g. satellite bus, solar panels, antennas, propulsion)
- Radar Cross Section (RCS) of targets
- Relevant target models
- Relevant target motion

3.2.13. The contractor shall consider the following factors but not be limited to measurement performance (e.g. resolution and accuracy) of:

- Range
- Doppler
- Azimuth
- Elevation
- Polarisation
- RCS
- Target separation
- Timing

3.2.14. The contractor shall consider what modes of operation are required and provide details of each, including the following but not limited to:-

- Cueing modes (e.g. from ephemeris supplied by other systems such as optical, passive RF or radar)
- Search or survey modes
- Acquisition and tracking modes
- Characterisation modes (e.g. range profiling or using polarisation information from the target or its Doppler spectrum). Contractor to consider what is feasible.

3.2.15. The contractor shall consider the requirements for target tracking including the following but not limited to:-

- Techniques and procedures for target detection and tracking including 'Track-before-detect' and 'Track-after-detect'
- Tracking precision
- Probability of Detection (P_d) and Probability of False Alarm (P_{fa})
- Number of targets that can be handled concurrently
- Number of target tracks that can be handled concurrently
- Number of concurrent radar beams
- Techniques to improve within beam accuracy and/or resolution (Monopulse? Multiple beams?)

- The contractor shall consider calibration requirements from the development phase through to full operating capacity.

3.2.16. The contractor shall consider requirements to compensate for the effects on propagation of the Earth's atmosphere and ionosphere.

3.2.17. The contractor shall consider the following factors but not be limited to:-

- Mechanical considerations such as antenna slew and tracking rates
- Frequency of operation, bandwidth, waveforms
- Equivalent Isotropic Radiated Power (EIRP)
- OFCOM requirements, spectrum allocation, frequency masks, coexistence with and resilience to interference from other users of the spectrum, consideration of spectrum re-use/co-use
- CAA / NATS constraints
- Health and safety requirements (e.g. minimum safe distances)

3.2.18. The contractor shall consider the following factors but not be limited to:-

- Processing requirements
- Data Storage requirements

3.2.19. The contractor shall identify key cost drivers.

3.2.20. **Classification**: **[REDACTED]**

3.2.21. **Deliverables:** The deliverables for Work Package 1 (WP1) shall comprise:

3.2.21.1. WP1-D1 **Quarterly Progress Report** and Technical Review as a presentation.

3.2.21.2. WP1-D2 **Draft System Requirements Document (SRD)** in the form of a Microsoft Excel workbook.

3.2.21.3. WP1-D3 A **System Requirements Document (SRD)** in the form of a Microsoft Excel workbook.

3.2.21.4. WP1-D4 **A final report and presentation** accompanying the SRD. This shall describe and document the work carried out including conclusions, recommendations and any assumptions, exclusions and dependencies.

3.2.22. **The SRD shall be delivered in two stages** with the first delivery being a Draft version at roughly half-way in time and effort through WP1. A period of 4 weeks shall be allowed for Dstl and key stakeholders to review each delivery and agree changes with the contractor.

3.2.23. WP1-D3 and WP1-D4 are required to be delivered no later than 15th March 2023 (MOD Fiscal year 22/23 end). Should Supplier progress be unsatisfactory, or should FY23/24 funding not be made available, the Authority shall terminate the contract on March 31st 2023.

3.2.24. The contractor shall present and review progress with Dstl on a quarterly basis.

3.3. Work Package 2 – System Concepts Study

3.3.1. Work Package 2 (WP2) is a concepts study for a Technical Demonstrator (TD) of a UK Deep Space Radar (DSR)

3.3.2. Under WP2 the contractor shall study and document the radar concepts considered most likely to meet the requirements in the SRD.

3.3.3. **GFI:** Dstl shall provide the following as Government Furnished Information (GFI) :-

- User Requirements Document (URD)

The contractor shall review and agree the understanding of the GFI with Dstl and key stakeholders. This shall be facilitated by the Customer Friend as necessary.

3.3.4. **Other Inputs**: WP2 shall be based upon the SRD developed under WP1 and the GFI.

3.3.5. It is anticipated that the systems requirements analysis (i.e. the SRD from WP1) and the concept study work (WP2) will be interdependent to some degree.

3.3.6. The level of 'design detail' produced by this work shall be to the level of block diagrams or sub-system descriptions.

3.3.7. The list of radar concepts that shall be considered shall include (but not be limited to):

- Monostatic radar e.g. MIT Lincoln Labs Millstone Hill Radar
- Bistatic radar including one or both sites being movable.
- Multistatic array of transmitting and receiving dishes including:-
  - A variation thereof employing coherent receivers
  - A variation thereof whereby multiple transmitters control their phase such that the radiation is coherent on the target.
- A system comprising target illumination by a satellite operator wherein radar reflections are received by a separate dish and receiver. Techniques may include correlation processing using normal communication signals or dedicated signal waveforms.

3.3.8. The contractor shall identify a point in the Concepts Study to be specified in the proposal when the wider set of concept options can be narrowed down to a shortlist, anticipated to comprise between 2 and 5 concepts.

3.3.9. Following the process of down-selection, the contractor shall study, assess and document in detail the merits and de-merits of each concept and this shall form part of the deliverable.

3.3.10. The contractor shall provide appropriate technical justifications as to how each concept on the shortlist meets the requirements within the SRD.

3.3.11. The contractor shall include descriptive information where shortfalls exist or where compromises are appropriate.

3.3.12. The contractor shall provide a detailed high-level system design for all concepts on the shortlist. It is anticipated that this shall be at least to the block and sub-system level.

3.3.13. The contractor shall provide details describing the link budget from the transmitter to the target and back to the receiver for each short-listed concept.

3.3.14. The contractor shall provide technical details of how detection, confirmation and track initiation (or equivalent processes), will operate, including the case of low RCS objects.

3.3.15. The contractor shall provide details of the processing needed to counter target range and Doppler migration.

3.3.16. The contractor shall provide design details concerning the Acquisition and Tracking sub-systems required as specified in the SRD. This shall include both hardware and software.

3.3.17. The contractor shall consider and provide design details of the power amplifier chain and the receiver low noise amplifier. This shall include investigating the technology required, candidate devices, how it will be procured, its availability, cost and lead time.

3.3.18. The contractor shall provide design details of how the signals from multiple beams will be routed and processed (if required in the SRD).

3.3.19. The contractor shall consider any other hardware (or software) sub-systems required for receiving and transmitting including (but not limited to) waveguides, rotating joints and RF over fibre. The contractor shall consider the level of complexity and cost implications associated with these sub-systems.

3.3.20. The contractor shall compare and contrast the relative advantages and disadvantages of each concept, including diagrams and tables as appropriate.

3.3.21. The contractor shall consider the software requirements for data processing and data dissemination.

3.3.22. The concepts considered shall be aligned towards:-

- Early concept demonstration to UK MOD within the timeframe T+1 to T+4 years
- Longer-term integration into the UK's space operations infrastructure circa T+5 years

3.3.23. The contractor shall cooperate with a third party, referred to in this SoR as the 'Customer Friend', to support the consideration of UK procurement DLODs (Defence Lines of Development), particularly in respect of integrating selected concepts into space operations. The Customer Friend shall also support requirements capture, costing and coherency with other TDPs.

3.3.24. The contractor shall during the course of WP2 identify and deliver information which will assist Dstl with decisions regarding the take-up of options under WP3.

3.3.25. The Authority may choose to progress towards a full Technical Demonstrator (e.g. a design and build) under a Phase 2 programme. However, continuation beyond Phase 1 is not guaranteed and would be subject to competition.

3.3.26. The contractor shall generate a full documentation pack and proposal for Phase 2, specifically the designing and building of a Technical Demonstrator at TRL 5-6.

3.3.27. **Deliverables:** The deliverables for Work Package 2 (WP2) shall comprise:

3.3.27.1. WP2-D1 **Quarterly Progress Report** and Technical Review as a presentation.

3.3.27.2. WP2-D2 **A 'long list' and shortlist** of concepts studies shall be delivered roughly half-way in time and effort through the whole package. This shall detail considerations for each concept, pros and cons of each together with recommendations and reasons for shortlisting. A period of 4 weeks shall be allowed for Dstl and key stakeholders to review this delivery and agree changes with the contractor.

3.3.27.3. WP2-D3 **Full Final Report and Presentation** detailing all work performed and summarising the findings, to include but not limited to :
• Descriptions of concepts
• Diagrams, block diagrams, code/pseudo-code
• Considerations and pros and cons
• Draft project plans and ROM costings for each concept, including capital & annual costs, expected maintenance and hardware refresh costs
• Roadmap for future development towards a concept demonstrator
• Assumptions, exclusions, dependencies
• Conclusions and recommendations

3.3.27.4. WP2-D4 **Risks and issues register**

3.3.27.5. WP2-D5 **Long lead item list (LLI).**This shall include the identification of any system components that are difficult to procure, expensive or on long lead times. Lead times shall be provided wherever possible

3.3.27.6. WP2-D6 **Documentary information** to assist Dstl with take-up decisions regarding WP3 options.

3.3.27.7. WP2-D7 **Full documentation pack and proposal** for Phase 2.

3.3.28. The contractor shall present and review progress with Dstl on a quarterly basis.

3.4. Work Package 3 – Costed Options

3.4.1. WP3 comprises one or more costed Options which the Authority may or may not take up.

3.4.2. Dstl will use deliverable WP2-D6 to assist in deciding which, if any, WP3 options it will take up.

3.4.3. The contractor shall identify and propose Options under WP3 e.g. to:

- Expand on, develop or refine concepts developed under WP2
- Demonstrate specific techniques or capabilities
- De-risk a specific technique or sub-system

The above may include risk reduction activities, validation experiments and prototyping. These shall be explicitly costed in the proposal.

3.4.4. The contractor shall provide descriptions of each option in the proposal together with the underlying reason behind each.

3.4.5. The contractor shall present and review progress with Dstl half-way through each option.

3.4.6. **Deliverables**: The deliverables for Work Package 3 (WP4) shall comprise:

3.4.6.1. WP3-D1: **Full Final Report and Presentation** describing work carried out under WP3 options. The report shall cover each option that has been taken up and include conclusions and recommendations on each.

Deliverables: Identified within WP descriptions
IP Rights: Identified by tick box below
Quality Control and Assurance: Identified by tick box below
Standard Deliverable Acceptance Criteria
Specific Deliverable Acceptance Criteria
(Dstl to have detailed control over acceptance criteria)

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 [REDACTED]	**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
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.
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.*

DELIVERABLES

Ref	Title	Due by	Format	TRL	Expected classification (subject to change)	Information required in deliverable	IPR DEFCON
WP1-D1	Quarterly Progress Report and Technical Review	Quarterly from kick-off	Presentation (.pptx)		**[REDACTED]**	Presentation pack to include but not limited to: • Update on technical progress • Progress report against project schedule. • Review of risk management plan. • Commercial aspects. • Review of deliverables. • Risks/issues. • GFA and supplier performance	703
WP1-D2	Draft SRD (System Requirements Document)	T0+3 Months	Excel workbook	1-2	**[REDACTED]**	Draft SRD	705
WP1-D3	Full SRD (System Requirements Document)	By 15th Mar 2023	Excel workbook	1-2	**[REDACTED]**	Full SRD	705
WP1-D4	Final report and presentation accompanying the SRD	By 15th Mar 2023	Document and Presentation (.pptx)	1-2	**[REDACTED]**	Full documentation of work carried out including any assumptions, exclusions and dependencies	705
WP2-D1	Quarterly Progress and Technical Review	Quarterly from kick-off	Presentation (.pptx)		**[REDACTED]**	Presentation pack to include but not limited to: • Update on technical progress • Progress report against project schedule. • Review of risk management plan. • Commercial aspects. • Review of deliverables. • Risks/issues.	703

						• GFA and supplier performance	
WP2-D2	Longlist and Shortlist of Concepts	T0+7 Months	Document and Presentation (.pptx)	1-2	**[REDACTED]**	Report on 'long list' of concepts and shortlist of concepts to include but not limited to: • Descriptions of concepts • Considerations and pros and cons of each concept • Recommendations and reasoning	705
WP2-D3	Final Report and Presentation	T0+9 Months	Document and Presentation (.pptx)	1-2	**[REDACTED]**	Report on all work performed to include but not limited to: • Descriptions of concepts • Diagrams, block diagrams, code • Considerations and pros and cons • Draft project plans and ROM costings for each concept • Roadmap for future development towards a concept demonstrator • Risks/issues • Assumptions, exclusions, dependencies • Conclusions and recommendations	705
WP2-D4	Risk register	T0+9 Months	Spreadsheet (.xlsx)	1-2	**[REDACTED]**	Risks/issues register	705
WP2-D5	Long lead items list (LLI)	T0+9 Months	Spreadsheet (.xlsx)	1-2	**[REDACTED]**	Identification of any system components that are difficult to procure, expensive or on long lead times. Lead times shall be provided wherever possible.	705
WP2-D6	Information concerning WP3	T0+11 Months	Document	1-2	**[REDACTED]**	Information to assist Dstl with take-up decisions regarding WP3 options	705
WP2-D7	Phase 2 Documentation and Proposal	T0+11 Months	Document(s)	5-6	**[REDACTED]**	Full documentation pack and proposal for Phase 2 (design and build Technical Demonstrator)	705
WP3-D1	Final Report and Presentation	T0+12 months	Document and Presentation (.pptx)	2/3	**[REDACTED]**	Full Report describing work carried out under each option including conclusions and	705

						recommendations on each.	

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:-

If there are any other specific acceptance/rejection criteria you would like to apply to any of the deliverables, please state them here.

Government Furnished Assets (GFA)

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

Unique Identifier/ Serial No	Description	Classification	Type	Available Date	Issued by	Return or Disposal Date	Any restrictions?
GFI-1	URD (User Requirements Document) Applicable to both WP1 and WP2	Official-Sensitive	Document or Spreadsheet	T0+0.5 month	Dstl	n/a	n/a

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

The highest classification of this SOR

OFFICIAL ☐ OFFICIAL-SENSITIVE ☐ SECRET ☐ TOP SECRET ☐ STRAP ☐ SAP ☐

The highest expected classification of the work carried out by the contractor

OFFICIAL ☐ OFFICIAL-SENSITIVE ☐ SECRET ☐ TOP SECRET ☐ STRAP ☐ SAP ☐

The highest expected classification of Deliverables/Output

OFFICIAL ☐ OFFICIAL-SENSITIVE ☐ SECRET ☐ TOP SECRET ☐ STRAP ☐ SAP ☐

Is a Security Aspects Letter (SAL) required? *(A Security Aspects Letter (SAL) will be required for each Task above Official-Sensitive and above)*

Yes ☐ No ☐

TASK CYBER RISK ASSESSMENT. *(In accordance with* **[REDACTED]** *and the* **[REDACTED]**)
ADDITIONAL TERMS AND CONDITIONS APPLICABLE TO THIS CONTRACT

Cyber Risk Level	**[REDACTED]**
Risk Assessment Reference	**[REDACTED]**

Please ensure all completed forms are copied to [REDACTED] 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 **DSR-PRO-GES-001-v1.1** **(attached)**

Delivery of the requirement:

Self-delivered ☒ Supply-chain delivered ☐

Supplier	Proposal Reference	Version	Date
[REDACTED]	DSR-PRO-GES-001	1.2	24/08/2022

1. Background

This Proposal is submitted in response to the Statement of Requirements (the "SOR") and the individual activities stated within the Call-Off Tasking Form Part A (attached).

This task is being self-delivered by **[REDACTED]**

2. Deliverables

The Contractor shall deliver the deliverable as set out in Section 7 of the Proposal.

3. Resources

In accordance with the Technical Proposal, we acknowledge this work to be classed as up to **[REDACTED]** and all staff will have the required security clearances, that is, they will be cleared to **[REDACTED]**

4. Implementation Plan

DSTL000000599 will start on (T0) and complete on T0+ 12 Months.

5. Dependencies

Dependencies are listed out in Section 9 of the Proposal.

6. Acceptance

The process and criteria for Acceptance for each deliverable is as detailed in Section 7 under the specific Deliverables in the Proposal.

7. Risks

The risks are detailed in Section 12 of the Proposal.

8. Special Terms

This Call-Off Tasking Form Part B (the "Proposal") is submitted under the terms of the Framework Agreement for Serapis Framework Agreement Lot 2, #DSTL/AGR/SERAPIS/SPA/01 dated 9th July 2019 (the "Contract"). It is based on the special terms set out in this Proposal, which, notwithstanding clause 3.3 of Section 2 (Special Conditions) of the Contract, shall take precedence over the terms and conditions contained within the said Contract.

Acceptance
For the purposes of DEFCON 524 and DEFCON 525, the express period for the right to reject any deliverable and where Acceptance is deemed to have occurred shall be 30 business days from delivery.

Purpose
For the purposes of Clause 5.2.2 of Section 2 (Special Conditions) of the Contract, the purpose for this Call-Off Task is as set out in the SoR. The Parties agree that any additional purpose which the Authority either expressly or impliedly makes known to the Contractor before or after the date of this Call-Off Task must be either added as an update to this Call-Off Task prior to signature, or amended through the appropriate change control procedure under the Contract. Where such an update or amendment is not made, the purpose identified within this Call-Off Task shall take precedence and the Authority cannot rely on any purpose not formalised in accordance herewith.

Remedy Period
For this Call-Off Task, the Parties agree that for the purposes of Clause 13.2 of Section 2 (Special Conditions) of the Contract, the Contractor shall have a period of 30 business days to remedy a breach (if such a breach is remediable) prior to the Authority terminating the Call-Off Task.

Intellectual Property
IP will be in accordance with DEFCON 705.

Please refer back to the supplier's proposal for further information.

Export
The Contractor is not aware of any export requirements for this Call-Off Task. Obligations related to export as set out in the Contract shall therefore not apply to this Call-Off Task, and the Authority shall be responsible for all export control requirements arising under this Call-Off Task.

Risk
The Parties recognise that **[REDACTED]** have been jointly developing the proposal with no involvement of the Contractor and that therefore low assurance activities have been or will be undertaken by the Contractor as part of this proposal (as scoped under the section 'Assurance Activities'). In placing an order against this proposal Dstl shall have been deemed to have confirmed that it has fully satisfied itself as to the content of the proposal and its risks, assumptions, exclusions and dependencies and the level of assurance activities proposed. As such, the Contractor holds no Design Responsibility and accepts no liability in relation to any matters arising including but not limited to risks associated with performance, delivery and quality. We will provide technical assurance as per the signed out level of the contract. Should there be any last minute changes to meetings or other activities, we cannot guarantee suitable SQEP will be available due to other commitments, but will work to best endeavours. Should we receive a Purchase Order after the validity date has passed, we cannot guarantee assigned resource will be available and therefore the start and end dates will need reviewing and the supplier may wish to withdraw their bid submission.

Assurance Activities
The assurance activities conducted for this task can be found in S40 Assurance Breakdown v1.0. The assurance level and subsequent assurance activities are subject to change. The assurance activities undertaken do not guarantee any particular performance, delivery or quality associated with a task. If additional assurance activities are required (this could be due to scope change/ task contract change etc.) they will need to be costed at the time of request and an uplifted purchased order will be required to cover these additional assurance activity costs. Commitment is not guaranteed for additional activities requested post contract award.

Advice

Whilst AI will exercise all reasonable skill, care and diligence in the performance of this service, it remains the responsibility of Dstl to employ its experience and judgement in interpreting the technical information and results generated from the Task. Thus, save as set out in this Tasking Order Form, no liability can be accepted with respect to the accuracy of the technical information and results and their eventual use. Please note AI's advice is limited to technical solutions. AI is not able to give advice, judgement or views as to the legal impact or consequence of any technical solution.

Warranty of Information
The contractor does not provide any warranty correctness or accuracy of information provided to or from its Sub-Contractors.

Protection of Personal Data
The Contractor will not be processing any Personal Data under this Call-Off Task.

Limit of Liability
Subject to Clauses:

1.2, the Contractor's liability to the Authority, whether arising from tort (including negligence), breach of contract or otherwise under or in connection with this Contract, in respect of:

a. Clause 3 of DEFCON 76 shall not exceed 150% of the Task Value; and
b. Loss of or damage to any articles, software or issued property that is outside the scope of DEFCON 76 shall not exceed 150% of the Task Value; and
c. Loss of Authority Data shall not exceed 150% of the Task Value; and
d. Breach of Contract, negligence and third party claims, excluding any third party claims under Defcon 632, shall not exceed 150% of the Task Value.

1.2 Nothing in this Contract shall operate to limit or exclude the Contractor's liability:

a. under DEFCONs 531 and 632; or
b. for death or personal injury caused by the Contractor's negligence or the negligence of any of its personnel, agents, consultants or sub-contractors; or
c. for fraud, or fraudulent misrepresentation; or
d. for breach of the terms implied by Section 2 of the Supply of Goods and Services Act 1982; or
e. for any other liability which cannot be limited or excluded by law.

1.3 The Contractor shall not be liable for any indirect, special or consequential loss or damage howsoever arising.

COVID 19
The spread and longevity of the COVID-19 virus continues to evolve and although BAE Systems is taking reasonable action to reduce the impact on programme and service delivery, quantifying that impact on the future delivery of this programme is not currently possible. Our proposal therefore assumes that our normal operations will be utilised in the provision of the services and we will work through with you any changes required to that approach depending on the specific circumstances encountered.

It is assumed that any changes to the solution, delivery plan or price required as a result of or in connection with the impact of the COVID-19 virus will be subject to the Change Control Process.

Cyber Risk Assessment
[REDACTED]

PRICE BREAKDOWN
The Firm price to the Authority will be invoiced in accordance with the Contract at the times specified in the Milestones Deliverables and Payments schedules below. The pre-contract TMS to the Authority will be Firm price and will be invoiced in accordance with the Contract at the times specified in the Milestones Deliverables and Payments schedules below. The assurance TMS to the Authority will be firm price and will be invoiced in accordance with the Contract at the times specified in the Milestones Deliverables and Payments schedules below. All prices detailed in this Proposal are in £ sterling and exclusive of Value Added Tax, which shall be charged at the prevailing rate. This Proposal is valid for 30 days

Offer of Contract: ***(to be completed and signed by the Contractor's Commercial or Contract Manager)***			
Total Proposal Price in £	209,937.90		**(ex VAT)**
Start Date:	T0	**End Date:** T0+ 12 Months	
Lot Leads Representative	**Name**	**[REDACTED]**	
	Tel	**[REDACTED]**	
	Email	**[REDACTED]**	
	Date	**[REDACTED]**	
Position in Company	Commercial Officer		
Signature	**[REDACTED]**		

Core Work – Breakdown

Lot Lead Rates for Task Management Services (TMS) *Please insert/delete rows as necessary*							
Team Member Name	**Role**	**Activity Type**	**Rate (£)**	**Total Hours**	**LMS recovery per role per hour** ('d' element)	**Total LMS recovery due (£)** ('d' x total hours)	Total TMS Cost (£) (Rate x total hours)
[REDACTED]	Project Manager	Contracting / Competition	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
[REDACTED]	Capability Lead	Contracting / Competition	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
[REDACTED]	Commercial Manager	Contracting / Competition	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
[REDACTED]	Project Manager	Assurance	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
[REDACTED]	Capability Lead	Assurance	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**

[REDACTED]	Commercial Manager	Assurance	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
			Total		**[REDACTED]**	**[REDACTED]**	**[REDACTED]**

Lot Lead Rates for Self-Delivery (only complete if applicable – otherwise delete table)
Please insert/delete rows as necessary

Team Member Name	**Role**	**Activity Type**	**Rate (£)**	**Total Hours**	**LMS recovery per role per hour** ('d' element)	**Total LMS recovery due (£)** ('d' x total hours)	Total Self Delivery Cost (£) (Rate x total hours)
[REDACTED]	Capability Lead	Research Management	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
[REDACTED]	Senior Engineer	Research Management	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
[REDACTED]	Project Manager	Research Management	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
		Total				**[REDACTED]**	**[REDACTED]**

Work Delivered by Sub-Contractor(s)

We recognise that suppliers may fit into multiple categories, please choose the drop down that categorises the supplier by the definition that is lowest on the list (i.e. a Defence Supplier Academic would be treated as an Academic.

Please insert/delete rows as necessary

Name of Sub-Contractor	**Supplier Type**	**Activity Description**	**Rate (£)**	**Total Hours**	**Total Cost (£)**
[REDACTED]	DS	Input to S40.WP manager for WP 2.2 and WP 1.2.1. Activities outlined in Technical Proposal and Annex A.	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
			Total	**[REDACTED]**	**[REDACTED]**

Travel, Subsistence, Materials & Equipment *Please insert/delete rows as necessary*					
Supplier Name	**Spend Type**	**Description / Rationale**	**Unit Cost (£)**	**Qty**	**Total Cost (£)**
[REDACTED]	**Road Travel**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
				Total	**[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.

Milestone 1						
Description	**TMS cost (£)**	**Self-Delivery cost (£)**	**Sub-contractor cost (£)**	**Total milestone cost (£)**	**Milestone due date**	**DEFCON**
EMR Delivery Final Presentation WP1 Related deliverables: WP1-D3: 'Final System Requirements Document' WP1-D4: 'WP1 Final Report and Presentation'	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
Travel/Subsistence				**[REDACTED]**		
Materials/Equipment				**[REDACTED]**		**[REDACTED]**
Milestone LMS recovery (£)	**[REDACTED]**					

Milestone 2						
Description	**TMS cost (£)**	**Self-Delivery cost (£)**	**Sub-contractor cost (£)**	**Total milestone cost (£)**	**Milestone due date**	**DEFCON**

EMR Delivery Mid term Review Related deliverables: WP2-D2: 'Longlist and Shortlist of Concepts'	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**
Travel/Subsistence				**[REDACTED]**		
Materials/Equipment				**[REDACTED]**		**[REDACTED]**
Milestone LMS recovery (£)	**[REDACTED]**					

Milestone 3						
Description	**TMS cost (£)**	**Self-Delivery cost (£)**	**Sub-contractor cost (£)**	**Total milestone cost (£)**	**Milestone due date**	**DEFCON**
EMR Delivery Final Review Related Deliverables: WP2-D3: 'WP2 Final Report and Presentation' WP2-D4: 'Risk Register' WP2-D5: 'Long Lead Item List' WP2-D6: 'Documentary Information for Costed Options' WP2-D7: 'Documentation and Proposal for Phase-2 Follow-on'	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**	**[REDACTED]**

Travel/Subsistence				[REDACTED]		
Materials/Equipment				[REDACTED]		[REDACTED]
Milestone LMS recovery (£)	[REDACTED]					

Milestone 4						
Description	**TMS cost (£)**	**Self-Delivery cost (£)**	**Sub-contractor cost (£)**	**Total milestone cost (£)**	**Milestone due date**	**DEFCON**
Pre-Contract TMS	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Travel/Subsistence				[REDACTED]		
Materials/Equipment				[REDACTED]		[REDACTED]
Milestone LMS recovery (£)	[REDACTED]					

Milestone 5						
Description	**TMS cost (£)**	**Self-Delivery cost (£)**	**Sub-contractor cost (£)**	**Total milestone cost (£)**	**Milestone due date**	**DEFCON**
Post-Contract TMS	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Travel/Subsistence				[REDACTED]		
Materials/Equipment				[REDACTED]		[REDACTED]
Milestone LMS recovery (£)	[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	6 September 2022
Requisition Number		**[REDACTED]**
Contractor's Proposal Number		**[REDACTED]**
Purchase Order Number		**[REDACTED]**
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.		